File: JPAB Jun 11, 1996

L6: Entry 49 of 51

PUB-NO: JP408151324A
DOCUMENT-IDENTIFIER: JP 08151324 A
TITLE: ANTIMICROBIAL PREPARATION

PUBN-DATE: June 11, 1996

INVENTOR-INFORMATION:

NAME	COUNTRY
TSUNEMITSU, AKIRA	
SUIDOU, HIROHISA	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SUNSTAR INC	

APPL-NO: JP06319152
APPL-DATE: November 28, 1994

INT-CL (IPC): A61 K 31/195; A61 K 7/16; A61 K 7/18; A61 K 7/26; A61 K 31/045; A61 K 31/085; A61 K 31/14; A61 K 31/155; A61 K 31/22; A61 K 31/44; A61 K 31/70; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78; A61 K 45/00

ABSTRACT:

PURPOSE: To obtain an antimicrobial preparation exhibiting excellent antimicrobial activity against the aggregate and lump of microorganisms, such as a biofilm or plaque, which can substantially not be controlled with an antimicrobial agent a lone.

CONSTITUTION: The antimicrobial preparation contains 0.001-10wt.% of arginine or its derivative and 0.001-10wt.% of a compound exhibiting antimicrobial activity. The further addition of 0.005-5wt.% of at least a surfactant selected from a nonionic surfactant and an amphoteric surfactant to the antimicrobial preparation gives the more excellent antimicrobial effect. The compound exhibiting the antimicrobial activity includes cationic antimicrobial agents (e.g. cetylpyridinium chloride), fluorides, natural antimicrobial agents (e.g. thymol, oil-soluble glycyrrhiza extract, a polyphenol), trichlosan, and isopropylmethylphenol. The nonionic surfactant is preferably a polyethylene oxide-polypropylene oxide block copolymer, and the amphoteric surfactant is preferably a palm oil fatty acid amide propylbetaine.

L6: Entry 49 of 51 File: JPAB Jun 11, 1996

PUB-NO: JP408151324A
DOCUMENT-IDENTIFIER: JP 08151324 A
TITLE: ANTIMICROBIAL PREPARATION

PUBN-DATE: June 11, 1996

INVENTOR-INFORMATION:
NAME COUNTRY
TSUNEMITSU, AKIRA
SUIDOU, HIROHISA

INT-CL (IPC): A61 K 31/195; A61 K 7/16; A61 K 7/18; A61 K 7/26; A61 K 31/045; A61 K 31/085; A61 K 31/14; A61 K 31/155; A61 K 31/22; A61 K 31/44; A61 K 31/70; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78; A61 K 45/00

ABSTRACT:

PURPOSE: To obtain an antimicrobial preparation exhibiting excellent antimicrobial activity against the aggregate and lump of microorganisms, such as a biofilm or plaque, which can substantially not be controlled with an antimicrobial agent a lone.

CONSTITUTION: The antimicrobial preparation contains 0.001-10wt.% of arginine or its derivative and 0.001-10wt.% of a compound exhibiting antimicrobial activity. The further addition of 0.005-5wt.% of at least a surfactant selected from a nonionic surfactant and an amphoteric surfactant to the antimicrobial preparation gives the more excellent antimicrobial effect. The compound exhibiting the antimicrobial activity includes cationic antimicrobial agents (e.g. cetylpyridinium chloride), fluorides, natural antimicrobial agents (e.g. thymol, oil-soluble glycyrrhiza extract, a polyphenol), trichlosan, and isopropylmethylphenol. The nonionic surfactant is preferably a polyethylene oxide-polypropylene oxide block copolymer, and the amphoteric surfactant is preferably a palm oil fatty acid amide propylbetaine.

WEST

Generate Collection Print

L6: Entry 49 of 51 File: JPAB Jun 11, 1996

DOCUMENT-IDENTIFIER: JP 08151324 A
TITLE: ANTIMICROBIAL PREPARATION

Abstract Text (2):
CONSTITUTION: The antimicrobial preparation contains 0.001-10wt.% of arginine or its derivative and 0.001-10wt.% of a compound exhibiting antimicrobial activity. The further addition of 0.005-5wt.% of at least a surfactant selected from a nonionic surfactant and an amphoteric surfactant to the antimicrobial preparation gives the more excellent antimicrobial effect. The compound exhibiting the antimicrobial activity includes cationic antimicrobial agents (e.g. cetylpyridinium chloride), fluorides, natural antimicrobial agents (e.g. thymol, oil-soluble glycyrrhiza extract, a polyphenol), trichlosan, and isopropylmethylphenol. The nonionic surfactant is preferably a polyethylene oxide-polypropylene oxide block copolymer, and the amphoteric surfactant is preferably a palm oil fatty acid amide propylbetaine.

WEST

Generate Collection Print

L6: Entry 50 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329424
DERWENT-WEEK: 199633

TITLE: Antibacterial composition pref. for oral use - consists of lysine its deriv, antibacterial cpd. and nonionic or amphoteric surfactant

PATENT-ASSIGNEE: SUNSTAR CHEM IND CO LTD (SUNZ)

PRIORITY-DATA: 1994JP-0319154 (November 28, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08151325 A	June 11, 1996		005	A61K031/195

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 08151325A	November 28, 1994	1994JP-0319154	

INT-CL (IPC): A61 K 7/16; A61 K 7/18; A61 K 7/22; A61 K 7/26; A61 K 31/05; A61 K 31/085; A61 K 31/14; A61 K 31/195; A61 K 31/44; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78

ABSTRACTED-PUB-NO: JP 08151325A
BASIC-ABSTRACT:

Compsn. pref. for oral use consists of lysine or its deriv. cpd. showing antibacterial activity and at least one of nonionic surfactant or amphoteric surfactant

Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

USE/ADVANTAGE - The compsn. has good antibacterial activity against bacterial aggregate or mycelial granule e.g. biofilm or plaque. The compsn. is not affected.

EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-; 5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0. +/+/+/+/; and 9, 0/ 0/; 1.0, +/+/+/+/+.

WEST

Generate Collection Print

L6: Entry 50 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329424
DERWENT-WEEK: 199633

TITLE: Antibacterial composition pref. for oral use - consists of lysine its deriv, antibacterial cpd. and nonionic or amphoteric surfactant

PRIORITY-DATA: 1994JP-0319154 (November 28, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08151325 A	June 11, 1996		005	A61K031/195

INT-CL (IPC): A61 K 7/16; A61 K 7/18; A61 K 7/22; A61 K 7/26; A61 K 31/05; A61 K 31/085; A61 K 31/14; A61 K 31/195; A61 K 31/44; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78

ABSTRACTED-PUB-NO: JP 08151325A
BASIC-ABSTRACT:

Compsn. pref. for oral use consists of lysine or its deriv. cpd. showing antibacterial activity and at least one of nonionic surfactant or amphoteric surfactant

Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

USE/ADVANTAGE - The compsn. has good antibacterial activity against bacterial aggregate or mycelial granule e.g. biofilm or plaque. The compsn. is not affected.

EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-; 5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0. +/+/+/+/; and 9, 0/ 0/; 1.0, +/+/+/+/+.

ABSTRACTED-PUB-NO: JP 08151325A
EQUIVALENT-ABSTRACTS:

L6: Entry 50 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329424
DERWENT-WEEK: 199633

TITLE: Antibacterial composition pref. for oral use - consists of lysine its deriv, antibacterial cpd. and nonionic or amphoteric surfactant

Basic Abstract Text (2):
Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

Basic Abstract Text (4):
EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-; 5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0. +/+/+/+/; and 9, 0/ 0/; 1.0, +/+/+/+/+.

ABSTRACTED-PUB-NO: JP 08151325A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: B05 D21 E16
CPI-CODES: B04-A10; B04-C03C; B05-C07; B07-A02; B07-D04; B10-A25; B10-B01B; D08-B08; E07-A02A; E07-D04A; E10-A07; E10-A22A; E10-B01C; E10-E02D1; E10-E02E1; E33-B; E35-H;

WEST

End of Result Set

Generate Collection | Print

L6: Entry 51 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329423
DERWENT-WEEK: 199633

TITLE: Antibacterial compsn. pref., for oral use - consists of arginine or its deriv antibacterial cpd. and nonionic or amphoteric surfactant.

PATENT-ASSIGNEE: SUNSTAR CHEM IND CO LTD (SUNZ)

PRIORITY-DATA: 1994JP-0319152 (November 28, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08151324 A	June 11, 1996		006	A61K031/195

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 08151324A	November 28, 1994	1994JP-0319152	

INT-CL (IPC): A61 K 7/16; A61 K 7/18; A61 K 7/26; A61 K 31/045; A61 K 31/085; A61 K 31/14; A61 K 31/155; A61 K 31/195; A61 K 31/22; A61 K 31/44; A61 K 31/70; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78; A61 K 45/00; A61 K 31/085; A61 K 31:195; A61 K 31/155; A61 K 31:195; A61 K 31:77; A61 K 31:77; A61 K 35/78

ABSTRACTED-PUB-NO: JP 08151324A
BASIC-ABSTRACT:

Compsn. pref. for oral use consists of arginine or its deriv. and compound showing antibacterial activity opt. with addition of at least one of nonionic surfactant or amphoteric surfactant. Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

USE/ADVANTAGE - The compsn. has good antibacterial activity against bacterial aggregate or mycelial granule e.g. biofilm or plaque. The compsn. is not affected.

EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-;

5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0, +/+/+/+/+; and 9, 0/0/0/ 1.0. +/+/+/+/+.

ABSTRACTED-PUB-NO: JP 08151324A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: B05 D21 E16
CPI-CODES: B04-A10; B04-C03C; B05-C07; B07-A02; B07-D04C; B10-A17; B14-A01; B14-N05; D08-B08; E10-A17B;

WEST

End of Result Set

Generate Collection | Print

L6: Entry 51 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329423
DERWENT-WEEK: 199633

TITLE: Antibacterial compsn. pref., for oral use - consists of arginine or its deriv antibacterial cpd. and nonionic or amphoteric surfactant.

Basic Abstract Text (1):
Compsn. pref. for oral use consists of arginine or its deriv. and compound showing antibacterial activity opt. with addition of at least one of nonionic surfactant or amphoteric surfactant. Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

Basic Abstract Text (3):
EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-; 5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0, +/+/+/+/+; and 9, 0/0/0/ 1.0. +/+/+/+/+.

WEST

End of Result Set

Generate Collection Print

L6: Entry 51 of 51 File: DWPI Jun 11, 1996

DERWENT-ACC-NO: 1996-329423
DERWENT-WEEK: 199633

TITLE: Antibacterial compsn. pref., for oral use - consists of arginine or its deriv antibacterial cpd. and nonionic or amphoteric surfactant.

PRIORITY-DATA: 1994JP-0319152 (November 28, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 08151324 A	June 11, 1996		006	A61K031/195

INT-CL (IPC): A61 K 7/16; A61 K 7/18; A61 K 7/26; A61 K 31/045; A61 K 31/085; A61 K 31/14; A61 K 31/155; A61 K 31/195; A61 K 31/22; A61 K 31/44; A61 K 31/70; A61 K 31/77; A61 K 33/16; A61 K 33/24; A61 K 35/64; A61 K 35/78; A61 K 45/00; A61 K 31/085; A61 K 31:195; A61 K 31/155; A61 K 31:195; A61 K 31:77; A61 K 31:77; A61 K 35/78

ABSTRACTED-PUB-NO: JP 08151324A
BASIC-ABSTRACT:

Compsn. pref. for oral use consists of arginine or its deriv. and compound showing antibacterial activity opt. with addition of at least one of nonionic surfactant or amphoteric surfactant. Pref. nonionic surfactant is a polyoxyethylene oxide-polypropylene oxide block-copolymer or sucrose fatty acid ester; the compound showing antibacterial activity is cationic antibacterial agent esp. cetyl pyridinium chloride or benzalkonium chloride, fluoride esp. sodium fluoride or tin fluoride, naturally occurring antibacterial substance esp. thymol, oil-soluble licorice extract, propolis, camomile, polyphenol, mulberry bark extract, aloe extract or teas extract or trichlosan or isopropylmethylphenol.

USE/ADVANTAGE - The compsn. has good antibacterial activity against bacterial aggregate or mycelial granule e.g. biofilm or plaque. The compsn. is not affected.

EXAMPLE - Staphylococcus aureus ATCC 6538 strain was cultured in 100 ml Trypticase soy broth (TSB) at 37 deg.C for 24 hr., washed with centrifugation (7000 rpm, 5 min.), suspended on distilled water, and the suspension (10 ml) was placed on membrane filter (10 mm dia. 0.45 micro pore size) with suction to give a mycelial aggregate model. The model was immersed in cetyl pyridinium chloride (CPC) soln., soln. of cetyl pyridinium chloride and arginine (LYS) or 'PLULONIC' (RTM) (PLU)-added ARG, followed by determn. of growth rate after cultivation in Trypticase soy agar (TSA) at 37 deg.C for 24 hr. to give following results (Sample No content by % of: CPC/LYS/PLU, growth rate by +: growth, o:partial growth and - : no growth, at reaction period by min.: 5/10/15/20/30):1, 0.01/0/0, +/+/+/+/-; 2, 0.01/0.001/0.0, +/+/+/o-; 3, 0.01/0.01/0.1, +/+/+/-/-; 4,0.01/ 0.1 /0.1, +/+/0/-/-; 5, 0.01/1.0/ 0.1, +/+/-/-/-/; 6, 0/01/ 0.1/ 1.0, +/-/-/-/-; 7, 0/0/ 0/1/ 0/1/ 5.0, +/-/-/-/-; 8, 0/ 10/ 0, +/+/+/+/+; and 9, 0/0/0/ 1.0. +/+/+/+/+.

ABSTRACTED-PUB-NO: JP 08151324A
EQUIVALENT-ABSTRACTS:

WEST

End of Result Set

Generate Collection | Print

L20: Entry 15 of 15 File: USPT Oct 9, 1990

US-PAT-NO: 4961923
DOCUMENT-IDENTIFIER: US 4961923 A

TITLE: Irrigants for use in scaling and/or lavage apparatus

DATE-ISSUED: October 9, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyde; John B.	Milford	DE		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Dentsply Management Corp.	York	PA			02

APPL-NO: 07/ 418780 [PALM]
DATE FILED: October 2, 1989

PARENT-CASE:
This is a continuation of application Ser. No. 157,672, filed Feb. 19, 1988, now abandoned.

INT-CL: [05] A61K 7/16, A61K 7/24, A61C 1/07

US-CL-ISSUED: 424/49; 424/55, 424/54, 433/86
US-CL-CURRENT: 424/49; 424/54, 424/55, 433/86

FIELD-OF-SEARCH: 424/49, 424/55, 433/86

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

zinc chloride + glycerin chelates

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3864472	February 1975	Pensak et al.	424/54
☐	3887701	June 1975	Nachitigal	424/54
☐	3947570	March 1976	Pensak et al.	424/54
☐	4022880	May 1977	Vinson et al.	424/49
☐	4150151	April 1979	Pader et al.	424/49
☐	4160821	June 1979	Sipos	424/49
☐	4289755	September 1981	Dhabhar	424/55
☐	4315742	February 1982	Nash et al.	433/86
☐	4325939	April 1982	Shah	424/55
☐	4339432	July 1982	Ritchey et al.	424/54
☐	4374122	February 1983	Stroz et al.	424/48
☐	4425325	January 1984	Ritchey et al.	424/54
☐	4435380	March 1984	Pader	424/49
☐	4465661	August 1984	Schmolka	424/58
☐	4472373	September 1984	Ryan	424/54
☐	4483848	November 1984	Cox et al.	424/49
☐	4508713	April 1985	Stroz et al.	514/60
☐	4522806	June 1985	Muhlemann et al.	424/52
☐	4582702	April 1986	Grollier	424/52
☐	4601900	July 1986	Noponen et al.	424/54
☐	4632937	December 1986	Lynch	514/470
☐	4770634	September 1988	Pellico	433/217.1
☐	4800095	January 1989	Carroll et al.	426/548

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
961412	January 1975	CA	433/86
988431	May 1976	CA	
1001554	December 1976	CA	
1028623	March 1978	CA	
1034505	July 1978	CA	
1042806	November 1978	CA	
1087098	October 1980	CA	
1095422	February 1981	CA	
1104939	July 1981	CA	
1116091	January 1982	CA	
1122123	April 1982	CA	
1139229	January 1983	CA	
1161860	February 1984	CA	
1168159	May 1984	CA	
DE3023461	January 1981	DE	
DE3001575	July 1981	DE	
1469399	April 1977	GB	

ART-UNIT: 115

PRIMARY-EXAMINER: Clingman; A. Lionel

ATTY-AGENT-FIRM: Hanson, Jr.; Edward J.

ABSTRACT:

Irrigants to be used with vibratory scaling apparatus and lavage are provided. The irrigants of the invention are characterized in that they contain medicaments for the treatment of conditions in the mouth and have a viscosity and deliquescence adapted to substantially optimize the efficiency of the apparatus. The irrigants are formulated so that they have minimal stickiness on drying, minimal foaming and do not gum-up the apparatus in which they are used. Also provided is a method for treating dental diseases comprising applying the irrigants of the invention through a vibratory scaling apparatus to substantially optimize the efficiency of said apparatus and to substantially optimize destruction and removal of infectious bacteria using said apparatus and the removal or inactivation of endotoxins derived from bacteria or the host.

14 Claims, 0 Drawing figures

WEST

End of Result Set

Generate Collection | Print

L20: Entry 15 of 15 File: USPT Oct 9, 1990

DOCUMENT-IDENTIFIER: US 4961923 A
TITLE: Irrigants for use in scaling and/or lavage apparatus

Brief Summary Text (4):
It is known in the art that plaque and calculus harbor toxic and irritating components implicated in oral disease and that plaque and calculus can be removed from teeth by mechanical scaling, especially at high frequency, and especially at ultrasonic frequencies.

Brief Summary Text (6):
By contrast, in copending application, U.S. Ser. No. 141,355 assigned to Dentsply International.RTM., incorporated herein by reference, disclosure was made of a fine but mechanically substantial device for delivery of medicaments to an affected site that is simultaneously activated to vibrate and to mechanically debride a periodontal pocket of calculus, bacteria and cellular debris. In the device described, the irrigant issues from the tip of the scaler, and one or more irrigants may be delivered simultaneously. Advantages for such a device are that irrigants may be delivered at the deepest location in a pocket so that when the calculus and plaque are debrided by the action of the scaler, debris may be removed from an affected periodontal pocket, for example, to the mouth. The irrigant is then evacuated by suction to remove debrided material.

Brief Summary Text (7):
In prior art lavage devices the irrigants chosen are those widely available as mouthwashes. These comprise a medicament and a vehicle. Medicaments of implied value include, for example, sanguinarine, chlorhexedine, cetylpyridinium chloride and the like. The vehicle most frequently comprises water, surfactants, a humectant and flavor enhancer typified by glycerin or sorbitol, a viscosity control agent typified by polyoxamer, ethanol as a cosolvent for otherwise immiscible ingredients, flavoring and sweetening agents to disguise otherwise unpalatable taste, a dispersant or surfactant to enhance the miscibility of the ingredients, and coloring agents. The selection of the ingredients is based generally on flavor perception and stabilization of the solution

Brief Summary Text (8):
Examples of commercially available mouthwashes include Listerine, Listermint, Scope, Lavoris, Plax, Chloraseptic, Cepacol The active medicinal ingredients in these mouthwashes include phenol and substituted phenols, thymol, menthol, eucolyptol, methyl salicylate, benzoic acid, eugenol, zinc chloride, cetyl pyridinium chloride and chlorhexedine. The vehicles in all cases include ethanol. The humectants are glycerin and the higher molecular weight stabilizer viscosity control agent, polyoxamer.

Brief Summary Text (11):
It is known that calculus and cellular debris may harbor antigenic components that trigger a series of reactions within the host that lead to the destruction of soft and hard tissue support of teeth Periodontal diseases are a major worldwide health problem. Collectively they are the major cause of tooth loss over the age of 35 years. The primary etiologic factor is bacterial plaque with dental calculus being a significant modifying influence which complicates treatment. Removal of both plaque and calculus is a prerequisite for improvement and maintenance of periodontal health An objective of the invention is to make materials and methods for the efficacious

removal of dental plaque and calculus

Brief Summary Text (13):
Irrigants are delivered at the deepest location in a pocket so that when the calculus and plaque are debrided by the mechanical action of the scaler, debris is removed, for example, from an affected periodontal pocket to the mouth by continuous flow of the irrigant to the operative site The irrigant is then evacuated by suction to remove debrided material An objective of this treatment is to provide antimicrobial solutions locally so that resident bacteria may be killed and flushed, together with other noxious materials, from the deepest areas of a periodontal pocket.

Brief Summary Text (17):
The irrigants may contain a surfactant which facilitates the removal of calculus and plaque from the tooth by reducing the surface tension of the crevicular fluid normally present so as to permit dislodgment of calculus and plaque. Further, a calcium chelating compound may be present in an irrigant to assist in the dislodgement of calculus, and the solvation, dispersion, and/or emulsification of the endotoxin permitting it being flushed from the tooth and/or soft tissue The irrigants may also contain inhibitors to antigenic components or enzymes and the like which can inactivate their biologic effect on the host. Such compounds are especially valuable in reducing pathogenic effect.

Brief Summary Text (18):
A beneficial effect of the use of surfactants and medicaments is believed to be their ability to disrupt the cell walls of infecting microorganisms to render them non-vital and to reduce their numbers significantly so that recolonization with consequent pathogenic effect is delayed or made impossible. Thus an extended period of time for healing and the growth of non-pathogenic microflora is permitted Plaque, especially subgingival plaque, is frequently consolidated into a sticky conglomerate that is difficult to disperse and remove. It is known industrially that ultrasonication of surfaces expedites dispersion and removal of contaminates, especially and importantly by aqueous solutions when surfactants are present. It is an objective to apply that methodology in dentistry to disperse, solvate and inactivate bacteria and bacterial plaque from periodontal pockets, soft tissue and teeth.

Brief Summary Text (27):
Medicaments are selected from a broad range of compounds that are capable, when properly formulated into an irrigant, of dissolving, suspending, or emulsifying bacteria and bacterial plaque components including calculus, endotoxin and other antigenic factors when used in the device The continuous flow of irrigant into the pocket facilitates their removal from the sulcus.

Brief Summary Text (29):
Irrigants of the invention for use in dental scaling and lavage apparatus comprise water, medicament, and optionally antifoaming agents, surfactants, viscosity control agents, flavors, sweetener and flavor enhancers. In a preferred embodiment the sweetener comprises aspartame, saccharin, xylitol, etc, and a viscosity control agent and flavor enhancer selected from among hydrogenated starch hydrolysates, a preferred example of which is Hystar 5875, ingredients which do not leave a sticky residue to clog the apparatus when used in the formulations of this invention. Medicaments are selected from a group of known medicaments for treating caries and periodontal disease; neutralizing antigenically active residues; inhibiting enzymes; solvating, suspending, dispersing or emulsifying endotoxin, plaque debris, and calculus; calcium chelators; anesthetics; astringents; antibiotics and anti-inflammatory compounds In its preferred form the irrigant comprises water, medicament, hydrogenated starch hydrolysate, surfactant, flavoring, sweeteners, and optionally ethanol for solvation of ingredients and dyes for coloring the compounds.

Brief Summary Text (35):
As used herein, the term medicament includes antibacterial solutions adapted to fight bacteria associated with periodontal disease or dental caries, solutions adapted to increase resistance to dental caries such as fluoride solutions,

surfactants adapted to chemically clean the sulcus and teeth of calculus, plaque and endotoxins as well as solutions containing chemicals used to promote healing

Brief Summary Text (38):
Medicaments also comprise astrigents such as zinc chloride, strontium fluoride, stannous fluoride, alum and similar salts including those that may provide hemostasis at the operative site

Brief Summary Text (39):
Similarly, medicaments also, comprise antimicrobial substances such as phenolic compounds, eugenol, menthol, thymol, eucolyptol, cresol, quaternary compounds including cetyl pyridinium chloride, didecyl dimethyl ammonium chloride, benzothonium chloride, bisdequallinium acetate, trichloro-2-hydroxydiphenyl ether, chlorhexedine, histidine, metranidazole, bacitracin, tetracyclines, polymixin B, etc.

Brief Summary Text (44):
Essentially the medicament portion of the irrigant comprises compounds which when properly formulated as an irrigant, are capable of dissolving, suspending, or emulsifying bacteria and bacterial plaque components including calculus, endotoxin, and other antigenic factors when used in conjunction with the ultrasonic scaling device provided, thus permitting them to be flushed from the pocket by the continuous flow of irrigant delivered simultaneously to the site.

Brief Summary Text (60):
The term treatment is intended to represent any application of the medicament of the invention, including removal of plaque and calculus, and their application to help prevent the occurrence of any of the conditions described herein.

Brief Summary Text (61):
The method of the invention for proplylaxis and/or treatment of teeth and its connecting tissue comprises simultaneously scaling teeth, preferably with a high speed vibrating scaling apparatus, and coutinuously delivering in situ an anti-microbial solution to enhance removal of bacteria and reduce the viable counts of bacteria The method, in certain embodiments, also comprises the use of surfactants to enhance the removal of plaque, calculus and endotoxins by using the ability of the surfactants to disrupt the cell walls or remove by-products of bacterial species causing such infections. It has been found that delivery of a medicament solution by vibratory motion, using the vibrating motion of the scaling apparatus, enhances the ability of the solution to remove the debris of such infections and to reduce the viable counts of bacteria which cause such infections. It has been found that the apparatus is more effective when using the irrigants of the invention, as compared to using water as an irrigant, and conversely, the medicaments are found to be more effective when applied through the vibrating apparatus, as compared to applying the medicaments in a conventional mouthwash. Thus, one aspect of the method of the invention is the continuous delivery in-situ of a solution capable of dissolving, dispersing and/or emulsifying endotoxin by employing, for example, a surfactant in the irrigant used in the invention.

Brief Summary Text (64):
Exemplary bactericidal irrigants for treating periodontal disease comprise (1) about 75-90% water, about 5-20% denatured alcohol, about 1-10% hydrogenated starch hydrolysate, about 0.1-5% polysorbate 80, about 0.01-0.1% sodium saccharin, about 0.0001% benzoic acid about 0.01-0.2% cetylpyridinium chloride, and about 0.02-1% flavoring and coloring; and (2) about 70-95% water, about 5-25% denatured alcohol, about 1-10% hydrogenated starch hydrolysate, about 0.5-5% polysorbate 80, about 0.01-0.2% chlorhexedine, and about 0.1-2% flavoring and coloring.

Detailed Description Paragraph Table (1):

Example 1
PERCENT: INGREDIENTS: #1 1A 1B Water Purified 85.3 85.5 97.1 Hystar 5875 (flavor 2.0 2.0 2.0 enhancer) Sodium Saccharin 0.05 0.05 0.05 (sweetener) Sodium Citrate 0.1 0.1 0.1 (chelating agent) Zinc Chloride (astringent) 0.15 -- -- FD & C Green #3 (color) 0.00005 0.00005 0.0005 FD & C Yellow #10 (color) 0.00005 0.00005 0.0005 Tween 80 (surfactant) 0.5 0.5 0.5 Flavor 0.25

0.25 0.25 SDA-37B, ethanol 11.6 11.6 11.6 Directions: Phase A Add one at a time with stirring to water. Phase B Mix Tween and Flavor well. Add alcohol with stirring until clear. Add to A. pH 5.9 (#1)

Detailed Description Paragraph Table (3):

Example 3

PERCENT: INGREDIENTS: 3 3A Water Purified 87.4 87.4 Hystar 5875 (flavor enhancer) 2.0 2.0 Sodium Saccharin (sweetner) 0.05 0.05 Benzoic Acid 0.0001 0.0001 Cetylpyridinium Chloride 0.045 -- (medicament) FD & C Blue #1 (color) 0.000025 0.000025 D & C Yellow #10 (color) 0.00025 0.00025 Tween 80 (surfactant) 0.5 0.5 Flavor 0.50000 0.05 0.05 SDA-38B, ethanol 10.0 10.0 100.0 Directions: Phase A Add one at a time with stirring to water. Phase B Mix Tween and Flavor well. Add Alcohol with stirring until clear. Add to A. pH 5.6 (#3)

until clear. Add to A. pH 5.6 (#3)

CLAIMS:

5. The dental irrigant of claim 1 comprising medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures thereof including mixtures with other medicaments.

7. The dental irrigant of claim 1 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant; said surfactant comprising polysorbate 80; and said dental irrigant further comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring; and a medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures thereof including mixtures with other medicaments.

12. The method of treating periodontal disease of claim 8 wherein said irrigant comprising medicament chosen from the group chlorhexidine, zinc chloride, stannous flouride and cetylpyrinium chloride and mixture and thereof including mixtures with other medicaments.

14. The method of treating periodontal disease of claim 8 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant; said surfactant comprising polysorbate 80; and said irrigant further comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring; and a medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures thereof including mixtures with other medicaments.

WEST

Generate Collection | Print

L20: Entry 7 of 15 File: USPT Aug 31, 1999

US-PAT-NO: 5945087
DOCUMENT-IDENTIFIER: US 5945087 A

TITLE: Cyclodextrins in dental products

DATE-ISSUED: August 31, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nelson; Dennis G. A.	Mountain Lake	NJ		
Sheehan; Craig J.	Edison	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Pfizer Inc.	New York	NY			02

APPL-NO: 08/ 839012 [PALM]
DATE FILED: April 23, 1997

PARENT-CASE:
This non-provisional application is based upon and claims priority from Provisional Application No. 60/016,135 filed Apr. 24, 1996.

INT-CL: [06] A61 K 7/16, A61 K 7/26

US-CL-ISSUED: 424/49; 424/58
US-CL-CURRENT: 424/49; 424/58

FIELD-OF-SEARCH: 424/49-88

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4267166	May 1981	Yajima	424/48
☐	4727064	February 1988	Pitha	514/58
☐	5095035	March 1992	Eby, III	514/494
☐	5236699	August 1993	Libin	424/54
☐	5310546	May 1994	Douglas	424/523
☐	5356615	October 1994	Gaffar	424/49
☐	5382567	January 1995	Fuwa et al.	512/4
☐	5472685	December 1995	Gaffar	424/49
☐	5626837	May 1997	Shimada et al.	424/49
☐	5681548	October 1997	Esposito et al.	424/49
☐	5723106	March 1998	Buch et al.	424/49

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
9416674	August 1994	WO	
9418939	September 1994	WO	

OTHER PUBLICATIONS

Chemical Abstrats 120:37785 of Shi CN 1071828A May 12, 1993 M mentholcyclodextrin.
Chemical Abstrats 124:15302 of Oshino et al JP 07238008A2 Sep. 12, 1995 M menthol cyclodextrin.
Chemical Abstrats 107:161426 Sato Sunstar JP 62116506A2 May 28, 1987 M menthol cyclodextrin toothpaste.
Chemical Abstrats 112:42263 Ootsuki Sunstar JP 01191623A2 Jul. 31, 1989 M menthol cyclodextrin mouthwash.
Chemical Abstrats 117:157445 Morishima Lion JP 04139118A2 May 13, 1992 T triclosgn cyclodextrin dentifrice.

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Richardson; Peter C. Ginsburg; Paul H. Fuller, Jr.; Grover F.

ABSTRACT:

Oral rinse and dentifrice compositions, comprising a phenolic selected from the group consisting of menthol, eucalyptol, methyl salicylate, thymol, triclosan, and mixtures thereof; and a cyclodextrin selected from the group consisting of hydroxypropyl .beta.-cyclodextrin, hydroxyethyl .beta.-cyclodextrin, hydroxypropyl .gamma.-cyclodextrin, hydroxyethyl .gamma.-cyclodextrin, .alpha.-cyclodextrin, methyl .beta.-cyclodextrin, and mixtures thereof. These compositions are useful in retarding the development of plaque, treating gingivitis, and in treating the presence of micro-organisms in the oral cavity.

15 Claims, 0 Drawing figures

L20: Entry 7 of 15 File: USPT Aug 31, 1999

DOCUMENT-IDENTIFIER: US 5945087 A
TITLE: Cyclodextrins in dental products

Abstract Text (1):
Oral rinse and dentifrice compositions, comprising a phenolic selected from the group consisting of menthol, eucalyptol, methyl salicylate, thymol, triclosan, and mixtures thereof; and a cyclodextrin selected from the group consisting of hydroxypropyl .beta.-cyclodextrin, hydroxyethyl .beta.-cyclodextrin, hydroxypropyl .gamma.-cyclodextrin, hydroxyethyl .gamma.-cyclodextrin, .alpha.-cyclodextrin, methyl .beta.-cyclodextrin, and mixtures thereof. These compositions are useful in retarding the development of plaque, treating gingivitis, and in treating the presence of micro-organisms in the oral cavity.

Brief Summary Text (3):
Dental plaque is present to some degree, in the form of a film, on virtually all dental surfaces. It is a by-product of microbial growth, and comprises a dense microbial layer consisting of a mass of micro-organisms embedded in a polysaccharide matrix. The micro-organisms present in plaque are mainly coccoidal organisms, particularly in early plaque. As plaque ages and matures, gram negative anaerobes and filamentous organisms appear and become more common after a few days. Plaque itself adheres to dental surfaces and may not be removed completely even with a rigorous brushing regimen and can build up, for example, in recessed areas of tooth surfaces, such as approximal regions and fissures. Moreover, plaque rapidly reforms on the tooth surface after it is removed.

Brief Summary Text (4):
Plaque may form on any part of the tooth surfaces, and can be found particularly at the gingival margin, in pits and fissures in the enamel, and on the surface of dental calculus. The danger associated with the formation of plaque on the teeth lies in the tendency of plaque to build up and eventually contribute to gingivitis, periodontitis and other types of periodontal disease, as well as dental caries and dental calculus.

Brief Summary Text (5):
More specifically, dental plaque is a precursor to the formation of the hard crystalline build up on teeth referred to as dental calculus. Both the bacterial and the nonbacterial components of plaque mineralize to form calculus, which comprises mineralized bacteria as well as organic constituents, such as epithelial cells, live bacteria, salivary proteins, leukocytes, and crystalline substances containing both calcium and phosphorous, e.g., hydroxyapatite, Ca.sub.10 (PO.sub.4).sub.6 (OH).sub.2, octacalcium phosphate, Ca.sub.8 (HPO.sub.4).sub.2 (PO.sub.4).sub.4.5H.sub.2 O, brushite, CaHPO.sub.4-.2H.sub.2 O, and whitlockite, which is considered to have the formula .beta.-Ca.sub.3 (PO.sub.4).sub.2. Dental plaque and, hence, calculus are particularly prone to form at the gingival margin, i.e., the junction of the tooth and gingiva. The buildup of plaque at, and below, the gingival margin is believed to be the prime cause of gingivitis and periodontal disorders.

Brief Summary Text (6):
Mouthwashes have been formulated to contain antimicrobial ingredients whose function is to reduce the buildup of plaque, either by the direct bactericidal action (i.e. killing) on plaque and salivary micro-organisms and, by bacteriostatic action (i.e. growth inhibition) on plaque and salivary micro-organisms. Scheie, A. AA. (1989)

Modes of Action of Currently Known Chemical Anti-Plaque Agents Other than Chlorhexidine. J. Dent. Res. 68 Special Issue: 1609-1616. Oral compositions including mouthwashes and dentifrices containing phenolic compounds are referred to in U.S. Pat. Nos. 4,945,087; WO 94/16.16,674; WO 94/07477; and WO 94/18939. Oral composition including triclosan are referred to in the following: U.S. Pat. Nos. 4,892,220; 5,032,386; 5,037,637; 5,034,154; 5,080,887; 5,236,699; 5,043,154; 5,032,385; and 5,156,835 as well as EPO 85303216.7.

Brief Summary Text (9):
Triclosan (2,4,4'-trichloro-2'-hydroxydiphenyl ether) is a phenolic, nonionic antimicrobial agent used in various soap and toiletry products. In the oral care area, triclosan has been used as a plaque-inhibitory agent in various toothpastes and mouthrinses. Triclosan is a broad-spectrum antimicrobial that has shown activity in in vitro assays. Regos, J. and Hitz, H. R. (1974) Investigation of Mode of Action of Triclosan, A Broad Spectrum Antimicrobial Agent. Zbl Bakt Hyg I Abt Orig A 226:390-401; Vischer, W. A. and Regos, J. (1974) Antimicrobial Spectrum of Triclosan, A Broad-Spectrum Antimicrobial Agent for Topical Application. Zbl Bakt Hyg I Agt Orig A 226:376-389, including chemostat studies; Bradshaw, D. J., Marsh, P. D., Watson, G. K. and Cummins, D. (1993) The Effects of Triclosan and Zinc Citrate, Alone and in Combination, on a Community of Oral Bacteria Grown in vitro. J. Dent Res. 72:25-30; Herles, S., Olsen, S., Afflito, J. and Gaffar, A. (1994) Chemostat Flow Cell System: An in vitro Model for the Evaluation of Antiplaque Agents. J. Dent Res. 73:1748-1755, as well as animal tests; Nabi, N., Mukerjee, C., Schmid, R., Gaffar, A. (1989) In Vitro and In Vivo Studies on Triclosan/PVM/MA copolymer/NaF Combination as an Antiplaque Agent. Am. J. Dent. Spec Issue No. 2:197-206; and human clinical studies; Garcia-Godoy, F., Garcia-Godoy, F., DeVizio, W., Volpe, A. R., Ferlauto, R. J. and Miller, J. M. (1990) Effect of a Triclosan/Copolymer/Fluoride Dentifrice on Plaque Formation and Gingivitis: A 7-month Clinical Study. Am. J. Dent. 3:S15-S26; Rustogi, K. N., Petrone, D. M., Singh, S. M., Volpe, A. R. and Tavss, E. (1990) Clinical Study of a Pre-brush and Triclosan/Copolymer Mouthrinse: Effect on Plaque Formation. Am. J. Dent. 3:S67-S69; and Saxton, C. A., Lane, R. M. and van der Ouderaa, F. (1987) The Effects of a Dentifrice Containing a Zinc Salt and a Non-cationic Antimicrobial Agent on Plaque and Gingivitis. J. Clin. Periodontol. 57:555-561. Although triclosan when delivered orally, is taken up by plaque and is moderately substantive, its bioactivity is limited by its poor aqueous solubility. Thus, triclosan has to be solubilized either by alcohol or surfactants such as sodium lauryl sulfate when formulated into a conventional dentifrice or mouthrinse product. Kjaerheim, V., Waaler, S. M., Rolla, G. (1994) Significance of Choice of Solvents for the Clinical Effect of Triclosan-containing Mouthrinses. Scand. J. Dent. Res. 102:202-205.

Brief Summary Text (17):
The present invention also relates to a dentifrice in the form of a toothpaste or tooth gel, comprising:

Brief Summary Text (22):
The present also relates to a method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of said oral rinse composition effective in retarding said development of plaque.

Brief Summary Text (23):
The present also relates to a method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of said dentifrice effective in retarding said development of plaque.

Brief Summary Text (25):
The present also relates to a method of treating gingivitis, comprising administering to a mammal in need of such treatment an amount of said dentifrice effective in treating gingivitis.

Brief Summary Text (27):
The present also relates to a method of treating the presence of micro-organisms in the oral cavity of a mammal, comprising administering to the mammal in need of such

treatment an amount of said dentifrice effective in reducing the viable population of said micro-organisms.

Brief Summary Text (29):
Compositions of the present invention include low-alcohol oral care compositions that contain cyclodextrin compounds which solubilize phenolic antimicrobial compounds. As a result of higher levels of solubilized phenolics in a solution, the phenolic compounds have improved bioavailability in treating plaque, as well as providing compositions having excellent low-temperature stability. These compositions retard the development of plaque as well as treat gingivitis and periodontal diseases without the use of high alcohol levels, high surfactant levels or the use of other co-solvents.

Brief Summary Text (35):
For dentifrice compositions suitable abrasives include precipitated silica or silica gels which have an average particle size ranging from about 0.1 to about 50 microns. Preferred silica abrasives include those marketed under the tradename "Sylodent.RTM." or "Syloid.RTM." by the W. R. Grace & Co. and those marketed under the tradename "Zeodent.RTM." by the J. M. Huber Corp. Other suitable abrasives, having a suitable particle size as described above, include .beta.-phase calcium pyrophosphate, alumina and calcium carbonate. The amount of abrasive in a dentifrice composition ranges up to about 60% by weight, preferably from 10% by weight to 40% by weight.

Brief Summary Text (36):
Dentifrice and oral rinse compositions also may contain a suitable fluoride source. Typical sources include soluble salts of the fluoride ion; e.g. sodium fluoride, potassium fluoride, stannous fluoride, stannous fluorozirconate etc.; or, soluble salts of the monofluorophosphate ion; e.g. sodium monofluorophosphate etc. The preferred fluoride source is sodium fluoride. The fluoride ion source should be sufficient to provide from about 50 ppm to about 2,500 ppm fluoride, preferably from about 250 ppm to about 1500 ppm for dentifrices and from about 50 ppm to about 250 ppm fluoride for oral rinses.

Brief Summary Text (38):
The pH of the oral rinses and dentifrice compositions can range from about 3.5 to about 8.5.

Brief Summary Text (41):
Additional antiplaque agents can also be optionally added to the compositions. These include cetyl pyridinium chloride and related quaternary salts, chlorhexidine, zinc salts such as zinc chloride, stannous salts such as stannous chloride or stannous fluoride and peroxygens such as hydrogen peroxide and carbamide peroxide. These optional antiplaque agents are generally present at levels ranging form about 0% to about 5% by weight.

Brief Summary Text (42):
Additional anticalculus agents can be optionally added to the compositions. These include tetra-alkali or di-alkali metal pyrophosphate salts and zinc salts, such as, but not limited to, zinc chloride etc. These optional anticalculus agents are generally present at levels ranging from about 0% by weight to about 10% by weight for pyrophosphate salts and from about 0% by weight to about 3% by weight for zinc salts.

Brief Summary Text (46):
Humectants are an optional component of the compositions. For oral rinses they impart a moist and elegant feel to the mouth and in toothpaste compositions they prevent hardening on exposure to air. Some humectants can provide sweetness to the composition. Suitable humectants include edible polyhydric alcohols such as glycerin, sorbitol, propylene glycol and xylitol. The humectant generally is present in an amount ranging from 0% by weight to 30% by weight for oral rinses and 0% by weight to 70% by weight for dentifrice compositions.

Brief Summary Text (48):
Flavoring agents can be added to the compositions. The flavorant may be a flavoring

oil or mixture of flavoring oils such as oil of peppermint, spearmint, wintergreen, clove, sassafras, lemon, orange or lime. Sweetening agents such as saccharin, lactose, maltose, aspartame, sodium cyclamate, polydextrose etc. can be added to the compositions. Flavoring agents generally are present in an amount ranging from 0.001% by weight to about 0.5% by weight for oral rinses and 0.25% by weight to about 5% by weight for dentifrice compositions. Sweetening agents generally are present in an amount ranging from 0.001% by weight to about 5% by weight for oral rinse and dentifrice compositions. Coloring agents generally are present in an amount ranging from 0% by weight to 0.01% by weight.

Detailed Description Text (10):
A dental rinse was formulated by adding poloxamer, sodium citrate, citric acid, sodium saccharin, hydroxypropyl .beta.-cyclodextrin, zinc chloride, sorbitol and dye to water using a Master Servodyne.RTM. mixer with high-lift blade rotating at 200-300 rpm to give a clear aqueous solution. Benzoic acid, menthol, thymol, methyl salicylate, eucalyptol and flavor were added to the 190.degree. alcohol to give a clear alcoholic solution. The alcoholic phase was added slowly to the aqueous phase which was continually agitated until the addition was complete. The resulting clear blue-green product was mixed for a further 30 minutes. The product had a pH of approximately 4.0.

Detailed Description Text (12):
A gel dentifrice was formulated by dispersing carboxymethyl cellulose in the glycerin and polyethylene glycol using a Lightening mixer. NaF was dissolved separately in the water. Water and sorbitol were added and mixed for 25 minutes sodium saccharin and hydroxypropyl .beta.-cyclodextrin were then added and mixed for a further 10 minutes. The phenolics were mixed together, i.e. eucalyptol, methyl salicylate, thymol and menthol, to make a phenolic phase. The phenolic phase was added to the cellulose/sorbitol/cyclodextrin/water phase until the phenolics are dissolved. Sylodent.RTM. 700, Sylox.RTM. 2, FD+C Blue No. 1 and sodium lauryl sulfate were then added and mixed thoroughly for 30 minutes. The resulting clear blue gel was deaerated to remove air bubbles.

Detailed Description Paragraph Table (5):

Ingredient	Weight Percent
poloxamer 407	0.50
sodium citrate	0.04
citric acid	0.01
sorbitol 70%	22.00
FD + C green no. 3	0.0006
hydroxypropyl .beta.-cyclodextrin	1.25
zinc chloride	0.10
sodium saccharin	0.03
alcohol 190 proof	8.00
benzoic acid	0.15
thymol	0.064
eucalyptol	0.092
menthol	0.042
methyl salicylate	0.060
flavor	0.10
purified water	67.5614
total	100.0000

Other Reference Publication (3):
Chemical Abstrats 107:161426 Sato Sunstar JP 62116506A2 May 28, 1987 M menthol cyclodextrin toothpaste.

Other Reference Publication (4):
Chemical Abstrats 112:42263 Ootsuki Sunstar JP 01191623A2 Jul. 31, 1989 M menthol cyclodextrin mouthwash.

Other Reference Publication (5):
Chemical Abstrats 117:157445 Morishima Lion JP 04139118A2 May 13, 1992 T triclosgn cyclodextrin dentifrice.

CLAIMS:

7. A stable oral rinse composition according to claim 6, wherein the orally acceptable antiplaque agent is selected from the group consisting of cetyl pyridinium chloride, cetyl pyridinium chloride related quaternary pharmaceutically acceptable salts, chlorhexidine, zinc pharmaceutically acceptable salts, stannous pharmaceutically acceptable salts and pharmaceutically acceptable peroxygens.

13. A method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of a composition according to claim 1 effective in retarding said development of plaque.

WEST

Generate Collection | Print

L20: Entry 6 of 15 File: USPT Sep 7, 1999

US-PAT-NO: 5948390
DOCUMENT-IDENTIFIER: US 5948390 A
**** See image for Certificate of Correction ****

TITLE: Stable zinc/citrate/CPC oral rinse formulations

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nelson; Dennis G. A.	Mountain Lakes	NJ		
Ortega, II; Alenjandro V.	Jersey City	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Pfizer Inc.	New York	NY			02

APPL-NO: 09/ 135948 [PALM]
DATE FILED: August 18, 1998

PARENT-CASE:
This non-provisional application is based upon and claims priority from Provisional Application Ser. No. 60/056,766 filed Aug. 25, 1997. The present invention relates to oral care products comprising zinc, citrate and cetyl pyridinium chloride (CPC).

INT-CL: [06] A61 K 7/16, A61 K 7/18, A61 K 7/22, A61 K 33/90

US-CL-ISSUED: 424/54; 424/49, 424/52, 424/641, 424/642
US-CL-CURRENT: 424/54; 424/49, 424/52, 424/641, 424/642

FIELD-OF-SEARCH: 424/49-58, 424/641, 424/642

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3647869	March 1972	Kaloff	260/535P
☐	3887704	June 1975	Lichtenstein	424/145
☐	4011309	March 1977	Lutz	424/49
☐	4022880	May 1977	Vinson et al.	424/49
☐	4160821	July 1979	Sipos	424/49
☐	4183916	January 1980	Rodon	424/54
☐	4188372	February 1980	Gaffar	424/54
☐	4273759	June 1981	Gaffar	424/54

☐	4289754	September 1981	Dhabaar	424/52
☐	4289755	September 1981	Dhabaar	424/52
☐	4323552	April 1982	Schmolka	424/54
☐	4325939	April 1982	Shah	424/55
☐	4339432	July 1982	Ritchey et al.	424/54
☐	4472373	September 1984	Ryan	424/54
☐	4522806	June 1985	Muhlemann et al.	424/52
☐	4545979	October 1985	Ambike et al.	424/52
☐	4550018	October 1985	Ambike et al.	424/52
☐	4606912	August 1986	Rudy et al.	424/52
☐	4614649	September 1986	Gorman et al.	424/54
☐	4689214	August 1987	Niles et al.	424/49
☐	4986981	January 1991	Glace et al.	424/50
☐	4994262	February 1991	Charbonneau et al.	424/52
☐	5043154	August 1991	Gaffar	424/52
☐	5100650	March 1992	Carlin et al.	424/52
☐	5104644	April 1992	Douglas	424/53
☐	5158763	October 1992	Gaffar	424/54
☐	5174990	December 1992	Douglas	424/53
☐	5176901	January 1993	Gallopo et al.	424/54
☐	5178869	January 1993	Ebine et al.	424/49
☐	5185153	February 1993	Pollock	424/440
☐	5236699	August 1993	Libin	424/54
☐	5266306	November 1993	Ohtsuki et al.	424/54
☐	5292527	March 1994	Konopa	424/54
☐	5294432	March 1994	Winston et al.	424/52
☐	5300289	April 1994	Garlich et al.	424/54
☐	5310546	May 1994	Douglas	424/53
☐	5320829	June 1994	Garlich et al.	424/54
☐	5320830	June 1994	Lukacovic et al.	424/52
☐	5320831	June 1994	Majeti et al.	424/52
☐	5330748	July 1994	Winston et al.	424/49
☐	5372802	December 1994	Barrows et al.	424/52
☐	5431903	July 1995	Majeti et al.	424/52
☐	5437856	August 1995	Lukacovic et al.	424/50
☐	5447930	September 1995	Nayak	514/239.2
☐	5455024	October 1995	Winston et al.	424/52
☐	5616313	April 1997	Williams et al.	424/49
☐	5695745	December 1997	Barton et al.	424/49
☐	5851578	December 1998	Gandhi	426/590
☐	5855873	January 1999	Yam	424/49

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Richardson; Peter C. Ginsburg; Paul H. Fuller, Jr.; Grover F.

ABSTRACT:

A stable oral rinse or clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium cations; and

d) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5.

33 Claims, 0 Drawing figures

L20: Entry 6 of 15 File: USPT Sep 7, 1999

DOCUMENT-IDENTIFIER: US 5948390 A
**** See image for Certificate of Correction ****
TITLE: Stable zinc/citrate/CPC oral rinse formulations

Abstract Text (2):
a) about 0.01% by weight to about 1% by weight of hydrated zinc cations;

Abstract Text (4):
c) about 0.01% by weight to about 2% by weight of cetyl pyridinium cations; and

Parent Case Text (2):
The present invention relates to oral care products comprising zinc, citrate and cetyl pyridinium chloride (CPC).

Brief Summary Text (2):
Most cases of oral malodor originate in the oral cavity and not from the stomach. Within the oral cavity, an important source of malodor is along the gumline, particularly in the approximal regions between teeth and in periodontal pockets. These are sites where bacteria accumulate into plaques and biofilms. Bacteria ferment and metabolize food debris at these sites to generate volatile sulfur compounds (VSCs), thought to be the main component of oral malodor. The main VSCs found in human oral malodor include hydrogen sulfide, methyl mercaptan and dimethyl sulfide although other mercaptans (R-SH) and sulfides (R.sub.2 S) are found in oral malodor. Another important source of malodor is the surface of the tongue which at the microscopic level contains many recessed folds and cavities in which micro-organisms grow and flourish. Again, these are good sites for the production of VSCs. Impaired or reduced salivary flow also seems to correlate with increased oral malodor. Since oral micro-organisms are responsible for the VSCs originating in the oral cavity, the chronic use of antimicrobials in oral compositions has been found to improve oral malodor. Also, oral compositions containing zinc salts have been used to treat VSCs because they strongly complex with these sulfur compounds, thus rendering them non-volatile and no longer able to cause malodor.

Brief Summary Text (3):
Zinc salts have been used in oral compositions because they possess both antimicrobial and oral deodorizing properties when appropriately formulated. In particular, for zinc salts to be effective in an oral composition, they should be solubilized in a form that is either uncomplexed or weakly-complexed. Unfortunately, uncomplexed or weakly-complexed zinc has an unpleasant, astringent taste as well as a drying, sometimes metallic, aftertaste. Thus, high levels of uncomplexed (or weakly-complexed) zinc, though effective, result in compositions that can be too astringent to be generally accepted by consumers. Zinc chloride, for example, has been used in compositions as the source of zinc ions. However, in order for these solutions or rinse compositions to be stable, they are formulated at acidic pHs of approximately 3.0 or less. These compositions, as mentioned above, also, have an astringent taste and an unacceptable aftertaste.

Brief Summary Text (4):
Several methods have been used to ameliorate the negative aesthetics of oral zinc compositions. One method, suitable only for dentifrices or solid dosage forms, involves using insoluble or sparingly soluble zinc salts such as zinc citrate. These salts then dissolve in saliva when they are introduced into the oral cavity, thus supplying the requisite zinc ions needed for efficacy. A second method is to complex

the zinc ion with a chelating ligand so that the level of uncomplexed zinc is reduced. A third method, again, only suitable for dentifrices or solid dosage forms, is to physically encapsulate zinc salts with hydrophobic polymers. The use of such polymers, thus, provides a delivery system which results in the extended release of zinc.

Brief Summary Text (5):
In order to produce stable mouthwashes, oral rinses or gels that are optically clear, the first and third methods cannot be used. As a result, chelants have been used to solubilize insoluble zinc salts or to form clear, stable solutions or gels above pH=3.0 (U.S. Pat. Nos. 4,289,754; 4,289,755; and 4,325,939, insoluble zinc citrate solubilized by excess citric acid and addition of sodium hydroxide to generate clear solutions with a pH of from 6.0 to 7.2).

Brief Summary Text (6):
Oral compositions have also been formulated with both zinc salts and CPC. U.S. Pat. Nos. 4,022,880 and 4,339,432 refer to the use of N-cetyl pyridinium chloride monohydrate (CPC) and zinc salts.

Brief Summary Text (9):
a) about 0.01% by weight to about 1% by weight of zinc cations;

Brief Summary Text (11):
c) about 0.01% by weight to about 2% by weight of cetyl pyridinium cations; and

Brief Summary Text (14):
Zinc cations are preferably formed from zinc salts including zinc chloride, zinc sulfate, zinc gluconate, zinc acetate and zinc lactate.

Brief Summary Text (15):
The preferred cetyl pyridinium pharmaceutically acceptable salt is cetyl pyridinium chloride;

Brief Summary Text (16):
The combination of an antimicrobial such as CPC and a zinc salt should result in oral compositions which act to reduce oral malodor by using two different mechanisms of action. Such oral compositions are more advantageous than compositions that use only one mechanism of action.

Brief Summary Text (18):
The dental formulations in this invention comprise stable oral rinse solutions and clear oral gels (e.g. gel dentifrice compositions) containing both hydrated zinc cations, fully or partially protonated citrate moieties and CPC in concentrations which provide effective antimicrobial and oral deodorizing properties while masking the unpleasant taste and aftertaste of zinc and CPC. The claimed invention results in stable, aesthetically acceptable zinc compositions where the zinc is not complexed and the pH lies in the range of from about 3.0 to about 4.5.

Brief Summary Text (19):
A suitable agent which does not strongly complex zinc in this pH range is citrate. The pKs of citric acid are 3.1, 4.8, and 6.4. Thus, the majority of citrate moieties at a pH range of between about 3.0 and about 4.5 are fully protonated HO.sub.2 CCH.sub.2 C(OH)(CO.sub.2 H)CH.sub.2 CO.sub.2 H (H.sub.3 CIT) or partially protonated form (H.sub.2 CIT.sup.1-, for example, HO.sub.2 CCH.sub.2 C(OH)(CO.sub.2 H)CH.sub.2 CO.sub.2.sup.- or HCIT.sup.2-, for example, HO.sub.2 CCH.sub.2 C(OH)(CO.sub.2.sup.-)CH.sub.2 CO.sub.2.sup.-). Complexation of citrate with zinc requires the presence of a triply ionized citrate anion (CIT.sup.3-, for example, .sup.- O.sub.2 CCH.sub.2 C(OH)(CO.sub.2.sup.-)CH.sub.2 CO.sub.2.sup.-), which does not occur appreciably at pHs below about 6. Complex species that can form between zinc and a triply ionized citrate anion under the appropriate conditions include Zn(CIT).sup.-, Zn(CIT).sub.2 .sup.4- and Zn(CIT)OH.sup.2-. The claimed zinc citrate compositions formulated in the above pH range of from about 3.0 to about 4.5 do not contain any appreciable amounts of these complex species and are stable with respect to low temperature cycling, defined by the permanent absence from flocculated material, precipitation or crystallization after low temperature storage at 7 days

at -5.degree. C. and subsequent return to room temperatures (25.degree. C.).

Brief Summary Text (20):
Zinc cations, which include hydrated zinc cations, useful in the present invention are formed from soluble zinc salts (defined as at least 1 gm of material dissolved per 100 mls of water at 25.degree. C.) that do not strongly complex zinc cations (defined as a log K (stability constant) less than 5) would be useful in the invention. Examples of such salts include zinc chloride, zinc sulfate, zinc gluconate, zinc acetate and zinc lactate. Examples of zinc salts that are not useful include zinc oxide and zinc citrate since they are not sufficiently soluble and will not dissolve in the pH range defined in this invention. Zinc cations are present in an amount ranging from about 0.01% by weight to about 1% by weight, preferably from about 0.02% by weight to about 0.25% by weight.

Brief Summary Text (21):
Various cetyl pyridinium pharmaceutically salts that are useful in the invention include N-cetyl pyridinium chloride monohydrate (available from EM Industries, Inc.) and cetyl pyridinium bromide. The preferred salt is include N-cetyl pyridinium chloride monohydrate (CPC). Cetyl pyridinium cations are present in an amount ranging from about 0.01% by weight to about 2% by weight, preferably from about 0.025% by weight to about 1% by weight.

Brief Summary Text (27):
For gel compositions, abrasives may also be added. Suitable abrasives include precipitated silica or silica gels which have an average particle size ranging from about 0.1 to about 50 microns which are treated so as to be compatible with cationic zinc and cationic CPC. Compatible abrasives should not substantially inactivate the zinc and CPC in the composition. Preferred silica abrasives include those marketed under the tradename "Sylodent" or "Syloid" by the W. R. Grace & Co. and those marketed under the tradename "Zeodent" by the J. M. Huber Corp. Other suitable abrasives, having a suitable particle size as described above, include .beta.-phase calcium pyrophosphate, alumina and calcium carbonate. The amount of abrasive in a gel composition ranges up to about 60% by weight, preferably from about 10% by weight to about 40% by weight.

Brief Summary Text (30):
Thickening agents or binders are an optional component of the compositions and can be used if they are compatible with zinc and CPC cations. Compatible thickening agents and binders should not substantially inactivate the zinc and CPC in the composition. Examples of such thickening agents or binders include cellulose gums such as methyl cellulose, cellulose derivatives such as hydroxyethylcellulose and quaternary-compatible silicas. Thickeners are usually present in the claimed compositions from about 0% by weight to about 2% by weight in oral rinses, in which hydroxyethylcellulose gum is the preferred thickener. In oral gels, quaternary-compatible silica-based thickeners can be used at concentrations from about 0% by weight to about 20% by weight. "Sylodent" by W. R. Grace & Co. is the tradename of the preferred silica-based thickener.

Detailed Description Text (2):
A 0.15% by weight zinc chloride, 0.1% CPC oral rinse composition was formulated by first dissolving the Poloxamer in the water at room temperature (usually about 25.degree. C.), using a Master Servodyne mixer with high-lift blade rotating at 200-300 rpm to give a clear aqueous solution. Next, sodium citrate, citric acid, hydrochloric acid, sodium saccharin, dyes and sorbitol were added to the solution which was mixed until these ingredients dissolved. The zinc chloride and CPC were then added to the solution which was mixed until these ingredients were dissolved. The flavor was added to the 190.degree. alcohol to give a clear alcoholic solution. The alcoholic phase was added slowly to the aqueous phase which was continually agitated until the addition was complete. The resulting blue-green product was mixed for an additional 30 minutes. The product had a pH of approximately 4.25. It was clear and uniform in appearance and did not cloud on storage at -5.degree. C. for 7 days.

Detailed Description Text (4):
A 0.25% by weight zinc chloride, 0.1% CPC oral rinse was formulated by first

dissolving the Poloxamer in the water at room temperature, using a Master Servodyne mixer with high-lift blade rotating at 200-300 rpm to give a clear aqueous solution. Next, sodium citrate, citric acid, hydrochloric acid, sodium saccharin, dyes and the sorbitol were added to the solution and mixed until they were dissolved. The zinc chloride and CPC were then added to the solution which was mixed until these ingredients were dissolved. The flavor was added to the 190.degree. alcohol to give a clear alcoholic solution. The alcoholic phase was added slowly to the aqueous phase which was continually agitated until the addition was complete. The resulting blue-green product was mixed for a further 30 minutes. The product had a pH of approximately 3.0. It was clear and uniform in appearance and did not cloud on storage at -5.degree. C. for 7 days.

Detailed Description Text (6):
A 0.6% by weight zinc chloride, 1.0% by weight CPC oral gel composition was formulated in several phases. The first phase consisted of first dissolving, in a Hobart mixer, the methyl cellulose and hydroxy ethyl cellulose in the polyethylene glycol (PEG-8) and glycerin. A second phase involved dissolving the NaF in water in a separate container. To the NaF solution, the following were added: citric acid, sodium citrate, and zinc chloride. For the third phase, the CPC was dissolved in water. To that CPC solution, Tego Betaine E was added. Next, phases 2 and 3 were combined. The combined phases were then added to phase 1 in the Hobart mixer. The sodium saccharin and dyes (as concentrated solutions) were added to the Hobart mixer and mixed for 5 minutes. Next, the silica was added to the Hobart mixer until a homogenous thick paste was obtained. Next, the flavor was mixed with Polysorbate 80 and then added to the gel and mixed for a minimum of 10 minutes. The gel was then deaerated in a 30 psi vacuum for at least 5 minutes. A clear blue-green gel was obtained. A 3:1 slurry of the gel had a pH of approximately 4.0-4.5.

Detailed Description Paragraph Table (1):

Ingredient Weight Percent

Poloxamer 407 0.50 Sodium Citrate 0.14 Citric Acid (Anhydrous) 0.01 Hydrochloric Acid (12N) 0.0045 Sodium saccharin 0.02 FD&C Blue No. 1 0.00015 D&C Green No. 5 0.00045 Sorbitol Solution (70%) 20.0 Zinc Chloride 0.15 Cetyl pyridinium Chloride 0.10 Alcohol, Ethyl 190 proof 14.00 Flavor 0.145 Purified water 64.92990 Total 100.00000

Detailed Description Paragraph Table (2):

Ingredient Weight Percent

Poloxamer 407 0.50 Sodium Citrate 0.20 Citric Acid (Anhydrous) 0.80 Hydrochloric Acid (12N) 0.0045 Sodium saccharin 0.02 FD&C Blue No. 1 0.00015 D&C Green No. 5 0.00045 Sorbitol Solution (70%) 20.0 Zinc Chloride 0.25 Cetyl pyridinium Chloride 0.10 Alcohol, Ethyl 190 proof 14.00 Flavor 0.145 Purified water 64.97990 Total 100.00000

Detailed Description Paragraph Table (3):

Ingredient Weight Percent

Phase 1 Methyl Cellulose 4.000 Hydroxy Ethyl Cellulose 3.000 PEG-8 3.000 Glycerin (99.5%) 47.851 Phase 2 Purified Water 5.000 Sodium Fluoride 0.243 Citric Acid 0.700 Sodium Citrate 0.600 Zinc Chloride 0.600 Phase 3 Cetyl pyridinium Chloride 1.000 Purified Water 1.500 TEGO Betaine E 4.000 Sodium Saccharin 0.500 D&C Yellow No. 10 0.001 FD&C Blue No. 1 0.005 Sylodent Silica (SMR6-26-50A), quat compatible 25.000 Polysorbate 80 2.000 Flavor 1.000 Total 100.000

CLAIMS:

1. A stable oral rinse or clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium moieties; and

d) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

2. The composition of claim 1, wherein the zinc cations are hydrated zinc cations.

3. The composition of claim 1, wherein the zinc cations are formed from zinc chloride, zinc sulfate, zinc gluconate, zinc acetate, and zinc lactate.

4. The composition of claim 1, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

7. The composition of claim 1, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

8. The composition of claim 1, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1% by weight.

19. A stable oral rinse composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 2% by weight of fully or partially protonated citrate moieties, wherein the citrate moieties are formed from citric acid, a soluble pharmaceutically acceptable citrate salt, or mixtures thereof;

c) about 0.01% by weight to about 1% by weight of cetyl pyridinium moieties;

d) about 0.01% by weight to about 1% by weight of an orally acceptable surfactant selected from the group consisting of nonionic surfactants, amphoteric surfactants, or mixtures thereof;

e) from 0 to about 25.0% by weight of an orally acceptable alcohol;

f) about 50 ppm to about 250 ppm of fluoride; and

g) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

20. The composition of claim 19, wherein the zinc cations are hydrated zinc cations.

21. The composition of claim 19, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

22. The composition of claim 19, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

23. The composition of claim 19, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1 % by weight.

26. A clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties wherein the citrate moieties are formed from citric acid, a soluble pharmaceutically acceptable citrate salt, or mixtures thereof;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium moieties;

d) about 0.5 to about 5% by weight of an orally acceptable surfactant selected from the group consisting of nonionic surfactants, amphoteric surfactants, or mixtures thereof;

e) from 0 to 60% by weight of an orally acceptable dental abrasive;

f) about 250 ppm to about 1500 ppm of fluoride; and

g) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

27. The composition of claim 25, wherein the zinc cations are hydrated zinc cations.

28. The composition of claim 25, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

29. The composition of claim 26, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

30. The composition of claim 25, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1 % by weight.

WEST

Generate Collection | Print

L20: Entry 4 of 15 File: USPT Jun 12, 2001

US-PAT-NO: 6245321
DOCUMENT-IDENTIFIER: US 6245321 B1
**** See image for Certificate of Correction ****

TITLE: Cyclodextrins in dental products

DATE-ISSUED: June 12, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nelson; Dennis G. A.	Mountain Lake	NJ		
Sheehan; Craig J.	Edison	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Pfizer Inc.	New York	NY			02

APPL-NO: 09/ 299213 [PALM]
DATE FILED: April 23, 1999

PARENT-CASE:
This application is a division of 08/839,012, filed Apr. 23, 1997 now U.S. Pat. No. 5,945,089. This non-provisional application is based upon and claims priority from Provisional Application Ser. No. 60/016,135 filed Apr. 24, 1996.

INT-CL: [07] A61 K 7/16, A61 K 7/26

US-CL-ISSUED: 424/49; 424/58
US-CL-CURRENT: 424/49; 424/58

FIELD-OF-SEARCH: 424/49-58

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

Zinc chloride
+
cetylpyridinium chloride

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4267166	May 1981	Yajimaz	424/48
☐	4727064	February 1988	Pitha	514/58
☐	5095035	March 1992	Eby, III	514/494
☐	5236699	August 1993	Libin	424/54
☐	5310546	May 1994	Douglas	424/53
☐	5356615	October 1994	Gaffar	424/49
☐	5382567	January 1995	Fuwa et al.	512/4
☐	5472685	December 1995	Gaffar	424/49
☐	5626837	May 1997	Shimada et al.	424/49
☐	5681548	October 1997	Esposito et al.	424/49
☐	5723106	March 1998	Buch et al.	424/49

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
9416674	August 1994	WO	
9418939	September 1994	WO	

OTHER PUBLICATIONS

Chemical Abstrats 120:37785.
Chemical Abstrats 124:15302.
Chemical Abstrats 107:161426.
Chemical Abstrats 112:42263.
Chemical Abstrats 117:157445.

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Richardson; Peter C. Ginsburg; Paul H. Fuller, Jr.; Grover F.

ABSTRACT:

Oral rinse and dentifrice compositions, comprising a phenolic selected from the group consisting of menthol, eucalyptol, methyl salicylate, thymol, triclosan, and mixtures thereof; and a cyclodextrin selected from the group consisting of hydroxypropyl .beta.-cyclodextrin, hydroxyethyl .beta.-cyclodextrin, hydroxypropyl .gamma.-cyclodextrin, hydroxyethyl .gamma.-cyclodextrin, .alpha.-cyclodextrin, methyl .beta.-cyclodextrin, and mixtures thereof. These compositions are useful in retarding the development of plaque, treating gingivitis, and in treating the presence of micro-organisms in the oral cavity.

16 Claims, 0 Drawing figures

WEST

Generate Collection Print

L20: Entry 4 of 15 File: USPT Jun 12, 2001

DOCUMENT-IDENTIFIER: US 6245321 B1
**** See image for Certificate of Correction ****
TITLE: Cyclodextrins in dental products

Abstract Text (1):
Oral rinse and dentifrice compositions, comprising a phenolic selected from the group consisting of menthol, eucalyptol, methyl salicylate, thymol, triclosan, and mixtures thereof; and a cyclodextrin selected from the group consisting of hydroxypropyl .beta.-cyclodextrin, hydroxyethyl .beta.-cyclodextrin, hydroxypropyl .gamma.-cyclodextrin, hydroxyethyl .gamma.-cyclodextrin, .alpha.-cyclodextrin, methyl .beta.-cyclodextrin, and mixtures thereof. These compositions are useful in retarding the development of plaque, treating gingivitis, and in treating the presence of micro-organisms in the oral cavity.

Brief Summary Text (3):
Dental plaque is present to some degree, in the form of a film, on virtually all dental surfaces. It is a by-product of microbial growth, and comprises a dense microbial layer consisting of a mass of micro-organisms embedded in a polysaccharide matrix. The micro-organisms present in plaque are mainly coccoidal organisms, particularly in early plaque. As plaque ages and matures, gram negative anaerobes and filamentous organisms appear and become more common after a few days. Plaque itself adheres to dental surfaces and may not be removed completely even with a rigorous brushing regimen and can build up, for example, in recessed areas of tooth surfaces, such as approximal regions and fissures. Moreover, plaque rapidly reforms on the tooth surface after it is removed.

Brief Summary Text (4):
Plaque may form on any part of the tooth surfaces, and can be found particularly at the gingival margin, in pits and fissures in the enamel, and on the surface of dental calculus. The danger associated with the formation of plaque on the teeth lies in the tendency of plaque to build up and eventually contribute to gingivitis, periodontitis and other types of periodontal disease, as well as dental caries and dental calculus.

Brief Summary Text (5):
More specifically, dental plaque is a precursor to the formation of the hard crystalline build up on teeth referred to as dental calculus. Both the bacterial and the nonbacterial components of plaque mineralize to form calculus, which comprises mineralized bacteria as well as organic constituents, such as epithelial cells, live bacteria, salivary proteins, leukocytes, and crystalline substances containing both calcium and phosphorous, e.g., hydroxyapatite, Ca.sub.10 (PO.sub.4).sub.6 (OH).sub.2, octacalcium phosphate, Ca.sub.8 (HPO.sub.4).sub.2 (PO.sub.4).sub.4.5H.sub.2 O, brushite, CaHPO.sub.4-.2H.sub.2 O, and whitlockite, which is considered to have the formula .beta.-Ca.sub.3 (PO.sub.4).sub.2. Dental plaque and, hence, calculus are particularly prone to form at the gingival margin. i.e.. the junction of the tooth and gingiva. The buildup of plaque at, and below. The gingival margin is believed to be the prime cause of gingivitis and periodontal disorders.

Brief Summary Text (6):
Mouthwashes have been formulated to contain antimicrobial ingredients whose function is to reduce the buildup of plaque, either by the direct bactericidal action (i.e. killing) on plaque and salivary micro-organisms and by bacteriostatic action (i.e.

growth inhibition) on plaque and salivary micro-organisms. Scheie, A. AA. (1989) Modes of Action of Currently Known Chemical Anti-Plaque Agents Other than Chlorhexidine. J. Dent. Res. 68 Special Issue: 1609-1616. Oral compositions including mouthwashes and dentifrices containing phenolic compounds are referred to in U.S. Pat. Nos. 4,945,087; WO 94/16.16,674; WO 94/07477; and WO 94/18939. Oral composition including triclosan are referred to in the following: U.S. Pat. Nos. 4,892,220; 5,032,386; 5,037,637; 5,034,154; 5,080,887; 5,236,699; 5,043,154; 5,032,385; and 5,156,835 as well as EPO 85303216.7.

Brief Summary Text (9):
Triclosan (2,4,4'-trichloro-2'-hydroxydiphenyl ether) is a phenolic, nonionic antimicrobial agent used in various soap and toiletry products. In the oral care area, triclosan has been used as a plaque-inhibitory agent in various toothpastes and mouthrinses. Triclosan is a broad-spectrum antimicrobial that has shown activity in in vitro assays. Regos, J. and Hitz, H. R. (1974) Investigation of Mode of Action of Triclosan, A Broad Spectrum Antimicrobial Agent. Zbl Bakt Hyg I Abt Orig A 226:390-401; Vischer, W. A. and Regos, J. (1974) Antimicrobial Spectrum of Triclosan, A Broad-Spectrum Antimicrobial Agent for Topical Application. Zbl Bakt Hyg I Agt Orig A 226:376-389, including chemostat studies; Bradshaw, D. J., Marsh, P. D., Watson, G. K. and Cummins, D. (1993) The Effects of Triclosan and Zinc Citrate, Alone and in Combination, on a Community of Oral Bacteria Grown in vitro. J. Dent Res. 72:25-30; Herles, S., Olsen, S., Afflito, J. and Gaffar, A. (1994) Chemostat Flow Cell System: An in vitro Model for the Evaluation of Antiplaque Agents. J. Dent Res. 73:1748-1755, as well as animal tests; Nabi, N., Mukerjee, C., Schmid, R., Gaffar, A. (1989) In Vitro and In Vivo Studies on Triclosan/PVM/MA copolymer/NaF Combination as an Antiplaque Agent. Am. J. Dent. Spec Issue No. 2: 197-206; and human clinical studies; Garcia-Godoy, F., Garcia-Godoy, F., DeVizio, W., Volpe, A. R., Ferlauto. R. J. and Miller, J. M. (1990) Effect of a Triclosan/Copolymer/Fluoride Dentifrice on Plaque Formation and Gingivitis: A 7-month Clinical Study. Am. J. Dent. 3:S15-S26; Rustogi, K. N., Petrone, D. M., Singh, S. M., Volpe, A. R. and Tavss, E. (1990) Clinical Study of a Pre-brush and Triclosan/Copolymer Mouthrinse: Effect on Plaque Formation. Am. J. Dent. 3:S67-S69; and Saxton. C. A., Lane, R. M. and van der Ouderaa, F. (1987) The Effects of a Dentifrice Containing a Zinc Saft and a Non-cationic Antimicrobial Agent on Plaque and Gingivitis. J. Clin. Periodontol. 57:555-561. Although triclosan when delivered orally, is taken up by plaque and is moderately substantive, its bioactivity is limited by its poor aqueous solubility. Thus, triclosan has to be solubilized either by alcohol or surfactants such as sodium lauryl sulfate when formulated into a conventional dentifrice or mouthrinse product. Kjaerheim, V., Waaler, S. M., Rolla, G. (1994) Significance of Choice of Solvents for the Clinical Effect of Triclosan-containing Mouthrinses. Scand. J. Dent. Res. 102.202-205.

Brief Summary Text (17):
The present invention also relates to a dentifrice in the form of a toothpaste or tooth gel, comprising:

Brief Summary Text (22):
The present also relates to a method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of said oral rinse composition effective in retarding said development of plaque.

Brief Summary Text (23):
The present also relates to a method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of said dentifrice effective in retarding said development of plaque.

Brief Summary Text (25):
The present also relates to a method of treating gingivitis, comprising administering to a mammal in need of such treatment an amount of said dentifrice effective in treating gingivitis.

Brief Summary Text (27):
The present also relates to a method of treating the presence of micro-organisms in

the oral cavity of a mammal, comprising administering to the mammal in need of such treatment an amount of said dentifrice effective in reducing the viable population of said micro-organisms.

Detailed Description Text (2):
Compositions of the present invention include low-alcohol oral care compositions that contain cyclodextrin compounds which solubilize phenolic antimicrobial compounds. As a result of higher levels of solubilized phenolics in a solution, the phenolic compounds have improved bioavailability in treating plaque, as well as providing compositions having excellent low-temperature stability. These compositions retard the development of plaque as well as treat gingivitis and periodontal diseases without the use of high alcohol levels, high surfactant levels or the use of other co-solvents.

Detailed Description Text (8):
For dentifrice compositions suitable abrasives include precipitated silica or silica gels which have an average particle size ranging from about 0.1 to about 50 microns. Preferred silica abrasives include those marketed under the tradename "Sylodent.RTM." or "Syloid.RTM." by the W. R. Grace & Co. and those marketed under the tradename "Zeodent.RTM." by the J. M. Huber Corp. Other suitable abrasives, having a suitable particle size as described above, include .beta.-phase calcium pyrophosphate, alumina and calcium carbonate. The amount of abrasive in a dentifrice composition ranges up to about 60% by weight, preferably from 10% by weight to 40% by weight.

Detailed Description Text (9):
Dentifrice and oral rinse compositions also may contain a suitable fluoride source. Typical sources include soluble salts of the fluoride ion; e.g. sodium fluoride, potassium fluoride, stannous fluoride, stannous fluorozirconate etc.; or, soluble salts of the monofluorophosphate ion: e.g. sodium monofluorophosphate etc. The preferred fluoride source is sodium fluoride. The fluoride ion source should be sufficient to provide from about 50 ppm to about 2,500 ppm fluoride, preferably from about 250 ppm to about 1500 ppm for dentifrices and from about 50 ppm to about 250 ppm fluoride for oral rinses.

Detailed Description Text (11):
The pH of the oral rinses and dentifrice compositions can range from about 3.5 to about 8.5.

Detailed Description Text (14):
Additional antiplaque agents can also be optionally added to the compositions. These include cetyl pyridinium chloride and related quaternary salts, chlorhexidine, zinc salts such as zinc chloride, stannous salts such as stannous chloride or stannous fluoride and peroxygens such as hydrogen peroxide and carbamide peroxide. These optional antiplaque agents are generally present at levels ranging form about 0% to about 5% by weight.

Detailed Description Text (15):
Additional anticalculus agents can be optionally added to the compositions. These include tetra-alkali or di-alkali metal pyrophosphate salts and zinc salts, such as, but not limited to, zinc chloride etc. These optional anticalculus agents are generally present at levels ranging from about 0% by weight to about 10% by weight for pyrophosphate salts and from about 0% by weight to about 3% by weight for zinc salts.

Detailed Description Text (19):
Humectants are an optional component of the compositions. For oral rinses they impart a moist and elegant feel to the mouth and in toothpaste compositions they prevent hardening on exposure to air. Some humectants can provide sweetness to the composition. Suitable humectants include edible polyhydric alcohols such as glycerin, sorbitol, propylene glycol and xylitol. The humectant generally is present in an amount ranging from 0% by weight to 30% by weight for oral rinses and 0% by weight to 70% by weight for dentifrice compositions.

Detailed Description Text (21):

Flavoring agents can be added to the compositions. The flavorant may be a flavoring oil or mixture of flavoring oils such as oil of peppermint, spearmint, wintergreen, clove, sassafras, lemon, orange or lime. Sweetening agents such as saccharin, lactose, maltose, aspartame, sodium cyclamate, polydextrose etc. can be added to the compositions. Flavoring agents generally are present in an amount ranging from 0.001% by weight to about 0.5% by weight for oral rinses and 0.25% by weight to about 5% by weight for dentifrice compositions. Sweetening agents generally are present in an amount ranging from 0.001% by weight to about 5% by weight for oral rinse and dentifrice compositions. Coloring agents generally are present in an amount ranging from 0% by weight to 0.01% by weight.

Detailed Description Text (31):
A dental rinse was formulated by adding poloxamer, sodium citrate, citric acid, sodium saccharin, hydroxypropyl .beta.-cyclodextrin, zinc chloride, sorbitol and dye to water using a Master Servodyne.RTM. mixer with high-lift blade rotating at 200-300 rpm to give a clear aqueous solution. Benzoic acid, menthol, thymol, methyl salicylate, eucalyptol and flavor were added to the 190.degree. alcohol to give a clear alcoholic solution. The alcoholic phase was added slowly to the aqueous phase which was continually agitated until the addition was complete. The resulting clear blue-green product was mixed for a further 30 minutes. The product had a pH of approximately 4.0.

Detailed Description Text (33):
A gel dentifrice was formulated by dispersing carboxymethyl cellulose in the glycerin and polyethylene glycol using a Lightening mixer. NaF was dissolved separately in the water. Water and sorbitol were added and mixed for 25 minutes sodium saccharin and hydroxypropyl .beta.-cyclodextrin were then added and mixed for a further 10 minutes The phenolics were mixed together, i.e. eucalyptol, methyl salicylate, thymol and menthol, to make a phenolic phase. The phenolic phase was added to the cellulose/sorbitol/cyclodextrin/water phase until the phenolics are dissolved. Sylodent.RTM. 700, Sylox.RTM. 2, FD+C Blue No. 1 and sodium lauryl sulfate were then added and mixed thoroughly for 30 minutes. The resulting clear blue gel was deaerated to remove air bubbles.

Detailed Description Paragraph Table (5):
Ingredient Weight Percent poloxamer 407 0.50 sodium citrate 0.04 citric acid 0.01 sorbitol 70% 22.00 FD-C green no. 3 0.0006 hydroxypropyl .beta.-cyclodextrin 1.25 zinc chloride 0.10 sodium saccharin 0.03 alcohol 190 proof 8.00 benzoic acid 0.15 thymol 0.064 eucalyptol 0.092 menthol 0.042 methyl salicylate 0.060 flavor 0.10 purified water 67.5614 total 100.0000

CLAIMS:

1. A dentifrice in the form of a clear tooth gel, comprising:

a) from about 0.01% to about 10% by weight of a phenolic, said phenolic selected from the group consisting of (i) a combination of menthol, eucalyptol, methyl salicylate, and thymol, (ii) triclosan, and (iii) mixtures thereof;

b) from about 0.1% by weight to about 60% by weight of a soluble cyclodextrin capable of solubilizing said phenolic without the use of high alcohol levels, high surfactant levels, or other phenolic cosolvents, said cyclodextrin selected from the group consisting of hydroxypropyl b-cyclodextrin, hydroxyethyl b-cyclodextrin, hydroxypropyl g-cyclodextrin, hydroxyethyl g-cyclodextrin, a-cyclodextrin and methyl b-cyclodextrin, and mixtures thereof;

c) up to about 60% by weight of an orally acceptable dental abrasive; and

d) an orally acceptable carrier,

said composition being low temperature stable and substantially clear and substantially free of precipitants, flocculants, or crystals at about room temperature.

2. A dentifrice according to claim 1, wherein the amount of cyclodextrin is from

about 5% by weight to about 30% by weight.

3. A dentifrice according to claim 1, further including up to about 4% by weight of an orally acceptable surfactant selected from the group consisting of an anionic surfactant, a nonionic surfactant, or mixtures thereof.

4. A dentifrice according to claim 3, wherein the amount of orally acceptable surfactant is from about 0.5% by weight to about 4% by weight.

5. A dentifrice according to claim 1, further including up to about 5% by weight of an orally acceptable antiplaque agent.

6. A dentifrice according to claim 5, wherein the orally acceptable antiplaque agent is selected from the group consisting of cetyl pyridinium chloride, cetyl pyridinium chloride, related quaternary pharmaceutically acceptable salts, chlorhexidine, zinc pharmaceutically acceptable salts, stannous pharmaceutically acceptable salts and pharmaceutically acceptable peroxygens.

7. A dentifrice according to claim 1, further including an orally acceptable anticalculus agent.

8. A dentifrice according to claim 7, wherein the orally acceptable anticalculus agent includes up to about 10% by weight of a pyrophosphate pharmaceutically acceptable salt.

9. A dentifrice according to claim 1, wherein the amount of orally acceptable dental abrasive is from about 10% by weight to about 40% by weight.

10. A dentifrice according to claim 1, wherein the orally acceptable dental abrasive selected from the group consisting of silica, alumina, calcium pyrophosphate and calcium carbonate.

11. A dentifrice according to claim 1, further including an orally acceptable suitable fluoride ion source sufficient to provide from about 50 ppm to about 2500 ppm fluoride.

12. A dentifrice according to claim 11, wherein the amount of the orally acceptable suitable fluoride ion source sufficient to provide from about 250 ppm to about 1500 ppm fluoride.

13. A dentifrice in the form of a clear tooth gel, comprising:

a) from about 0.01% to about 3% by weight of a phenolic, said phenolic selected from the group consisting of (i) a combination of menthol, eucalyptol, methyl salicylate, and thymol, (ii) triclosan, and (iii) mixtures thereof;

b) from about 0.1% by weight to about 30% by weight of a soluble cyclodextrin capable of solubilizing said phenolic without the use of high alcohol levels, high surfactant levels, or other phenolic cosolvents, said cyclodextrin selected from the group consisting of hydroxypropyl b-cyclodextrin, hydroxyethyl b-cyclodextrin, hydroxypropyl g-cyclodextrin, hydroxyethyl g-cyclodextrin, a-cyclodextrin and methyl b-cyclodextrin, and mixtures thereof;

c) up to about 40% by weight of an orally acceptable dental abrasive;

d) up to about 4% by weight of an orally acceptable surfactant selected from the group consisting of an anionic surfactant, a nonionic surfactant, or mixtures thereof;

e) an orally acceptable suitable fluoride ion source sufficient to provide from about 250 ppm to about 1500 ppm fluoride; and

f) an orally acceptable carrier,

said composition being low temperature stable and substantially clear and

substantially free of precipitants, flocculants, or crystals at about room temperature.

14. A method for retarding development of plaque on a dental surface in the oral cavity of a mammal, comprising administering to said dental surface an amount of a dentifrice according to claim 12 effective in retarding said development of plaque.

15. A method of treating gingivitis, comprising administering to a mammal in need of such treatment an amount of a dentifrice according to claim 1 effective in treating gingivitis.

16. A method of treating the presence of micro-organisms in the oral cavity of a mammal, comprising administering to the mammal in need of such treatment an amount of a dentifrice according to claim 1 effective in reducing the viable population of said micro-organisms.

WEST

Generate Collection Print

L6: Entry 27 of 51 File: USPT Oct 31, 2000

DOCUMENT-IDENTIFIER: US 6139820 A
**** See image for Certificate of Correction ****
TITLE: Delivery system for dental agents

Detailed Description Text (27):
Other dental agents or medicaments that can be included instead of, or in addition to, fluoride include antimicrobial agents that can be added to fight gum and periodontal diseases and desensitizing agents. Examples of antimicrobial agents include, but are not limited to chlorhexidine, tetracycline, cetyl pyridinium chloride, benzalkonium chloride, cetyl pyridinium bromide, methylbenzoate, propylbenzoate, and peroxides. Examples of desensitizing agents include, but are not limited to, potassium nitrate, citric acid, citric acid salts, strontium chloride, and the like.

Detailed Description Text (47):
In order for pre-foamed dentifrice compositions to have a commercially practical shelf-life, the foamed compositions need to be shelf stable as a foam for prolonged periods of time and subsequently be ready for application. Stabilized foaming agents within the scope of the present invention should be non-toxic and should not contribute to the formation of carries. There are many foaming and stabilizing agents known that are capable of safely and effectively stabilizing foamed dentifrice compositions including, but are not limited to, soaps, proteins, extract of licorice root, fatty acids, and sulfite liquids.

Detailed Description Text (59):
Colorants such as pigments and dyes may be used in the practice of the present invention. Pigments include non-toxic water insoluble inorganic pigments such as titanium dioxide and chromium oxide greens, ultramarine blues and pinks and ferric oxides as well as water insoluble dye lakes

WEST

Generate Collection | Print

L6: Entry 27 of 51 File: USPT Oct 31, 2000

US-PAT-NO: 6139820
DOCUMENT-IDENTIFIER: US 6139820 A
**** See image for Certificate of Correction ****

TITLE: Delivery system for dental agents

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		
Jensen; Steven D.	South Jordan	UT		

US-CL-CURRENT: 424/52; 424/49

CLAIMS:

What is claimed and desired to be secured by United States Letters Patent is:

1. A dental composition for delivering a reduced quantity of fluoride ions into a person's mouth comprising:

a base composition including a fluoride ion source that provides from about 10 ppm to about 3500 ppm of fluoride ions, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof, the base composition having a density; and

a density reducing component dispersed throughout the base composition and included in an amount so as to yield a final dental composition having a density that is at least about 30% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 30% relative to the base composition, wherein at least a portion of the density reducing component comprises a lower density solid filler,

wherein the dental composition has a rheology such that it can be expressed onto a toothbrush as a coherent mass and a sufficiently low level of abrasiveness such that it is suitable for use in daily tooth brushing.

2. A dental composition as defined in claim 1, wherein the density reducing component reduces is included in an amount so as to yield a final dental composition having a density that is at least about 50% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 50% relative to the base composition.

3. A dental composition as defined in claim 1, wherein the density reducing component reduces is included in an amount so as to yield a final dental composition having a density that is at least about 75% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 75% relative to the base composition.

4. A dental composition as defined in claim 1, wherein a portion of the density

reducing component further comprises a gas that is dispersed throughout the base composition during mixing such that the dental composition is pre-foamed.

5. A dental composition as defined in claim 4, wherein the base composition further includes a foaming agent that stabilizes the pre-foamed dental composition such that the dental composition is capable of being stored for a desired period of time within a storage container without significant collapse of the foam.

6. A dental composition as defined in claim 1, wherein the density reducing component consists exclusively of the lower density solid filler.

7. A dental composition as defined in claim 1, wherein the lower density solid filler has a density less than about 0.5 g/cm.sup.3.

8. A dental composition as defined in claim 1, wherein the lower density solid filler has a density less than about 0.3 g/cm.sup.3.

9. A dental composition as defined in claim 1, wherein the lower density solid filler has a density less than about 0.1 g/cm.sup.3.

10. A dental composition as defined in claim 1, wherein the lower density solid filler imparts abrasive activity to the dental composition in addition to the abrasive solid within the base composition.

11. A dental composition as defined in claim 1, wherein the density reducing component comprises a mixture of a gas and the lower density solid filler.

12. A dental composition as defined in claim 1, wherein a portion of the density reducing component comprises initially compressed gas that causes the base composition to foam and expand to form the dental composition upon dispensing the base composition and compressed gas from a storage container onto a toothbrush.

13. A dental composition as defined in claim 12, wherein the compressed gas is premixed with the base composition and wherein the compressed gas and the base composition are initially stored together within a pressurized storage container.

14. A dental composition as defined in claim 12, wherein the compressed gas is stored in a compartment separate from, but in communication with, a storage container, containing the base composition such that the compressed gas is able to mix with the base composition and causes the base composition to foam and expand upon dispensing a mixture of the base composition and compressed gas.

15. A dental composition as defined in claim 1, wherein the fluoride ion source is included in an amount such that the dental composition provides fluoride ions in a concentration in a range from about 850 ppm to about 1150 ppm.

16. A dental composition as defined in claim 1 wherein the dental composition has a volume greater than about 133% relative to the volume of the base composition exclusive of the density reducing component.

17. A dental composition as defined in claim 1, wherein the dental composition has a volume greater than about 150% relative to the volume of the base composition exclusive of the density reducing component.

18. A dental composition as defined in claim 1, wherein the dental composition has a volume greater than about 300% relative to the volume of the base composition exclusive of the density reducing component.

19. A dental composition as defined in claim 1, wherein the dental composition has a rheology so that it may be expressed from a tube.

20. A reduced density dental composition comprising:

a base composition including a fluoride ion source that provides from about 10 ppm to about 3500 ppm of fluoride ions, all abrasive solid, and a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof, the base composition having an density; and

a lower density solid filler, separate from the abrasive solid, having a density less than about 0.5 g/cm.sup.3 and being dispersed throughout the base composition in an amount so as to yield a final reduced density dental composition having a density that is at least about 30% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 30% relative to the base composition,

wherein the dental composition has a rheology such that it can be expressed onto a toothbrush as a coherent mass and a sufficiently low level of abrasiveness such that it is suitable for use in daily tooth brushing.

21. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler is included in an amount so as to yield a final reduced density dental composition having a density that is at least about 50% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 50% relative to the base composition.

22. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler is included in an amount so as to yield a final reduced density dental composition having a density that is at least about 75% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 75% relative to the base composition.

23. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler has a density less than about 0.3 g/cm.sup.3.

24. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler has a density less than about 0.1 g/cm.sup.3.

25. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler imparts abrasive activity to the dental composition in addition to the abrasive solid within the base composition.

26. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler comprises an inorganic filler material.

27. A reduced density dental composition as defined in claim 20, wherein the lower density solid filler comprises hollow glass spheres.

28. A reduced density dental composition as defined in claim 20, wherein the lightweight filler material comprises an organic filler material.

29. A reduced density dental composition as defined in claim 20, further including entrained gas.

30. A reduced density dental composition as defined in claim 20, wherein the fluoride ion source is included in an amount such that the dental composition provides fluoride ions in a concentration in a range from about 850 ppm to about 1150 ppm.

31. A reduced density dental composition comprising:

a base composition including a fluoride ion source that provides from about 10 ppm to about 3500 ppm of fluoride ions, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof, the base composition having a density; and

at least one of hollow aluminum oxide, ceramic, or glass bubbles separate from the abrasive solid and being dispersed throughout the base composition in an amount so as to yield a final reduced density dental composition having a density that is at least about 30% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 30% relative to the base composition,

wherein the dental composition has a rheology such that it can be expressed onto a toothbrush as a coherent mass and a sufficiently low level of abrasiveness such that it is suitable for use in daily tooth brushing.

32. A foamed dental composition for delivering a reduced quantity of flouride ions into a person's mouth comprising:

a base composition including a fluoride ion source that provides front about 10 ppm to about 3500 ppm of fluoride ions, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof, the base composition having a density, and

a mixture of a gas and a lower density solid dispersed throughout the base composition, wherein the mixture of the gas and lower density solid is included in an amount so as to yield a final foamed dental composition having a density that is at least about 30% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 30% relative to the base composition,

wherein the dental composition has a rheology such that it can be expressed onto a toothbrush as a coherent mass and a sufficiently low level of abrasiveness such that it is suitable for use in daily tooth brushing.

33. A foamed dental composition as defined in claim 32, wherein the mixture of the gas and lower density solid is included in an amount so as to yield a final foamed dental composition having a density that is at least about 50% less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 50% relative to the base composition.

34. A method for delivering a reduced quantity of fluoride ions into a person's mouth, comprising:

(a) expressing a quantity of a reduced density dental composition as a coherent mass onto a tooth brush suitable for daily brushing, wherein the dental composition has a sufficiently low level of abrasiveness such that it is suitable for use in daily tooth brushing and includes:

(i) a base composition including a fluoride ion source that provides form about 10 ppm to about 3500 ppm of fluoride ions, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof, the base composition having a density; and

(ii) a density reducing component dispersed throughout the base composition and included in an amount so as to yield a final dental composition having a density that is at least about 30 less than the density of the base composition in order to thereby reduce the quantity of fluoride ions delivered per unit volume of the dental composition by at least about 30% relative to the base composition, wherein at least a portion of the density reducing component comprises a lower density solid filler; and

(b) brushing the person's teeth using the tooth brush and the dental composition.

35. A method as defined in claim 34, wherein the density reducing component

further includes a gas.

36. A method as defined in claim 34, wherein the density reducing component consists exclusively of the low density solid filler.

WEST

Generate Collection | Print

L6: Entry 27 of 51 File: USPT Oct 31, 2000

US-PAT-NO: 6139820
DOCUMENT-IDENTIFIER: US 6139820 A
**** See image for Certificate of Correction ****

TITLE: Delivery system for dental agents

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		
Jensen; Steven D.	South Jordan	UT		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Ultradent Products, Inc.	South Jordan	UT			02

APPL-NO: 09/ 360998 [PALM]
DATE FILED: July 26, 1999

PARENT-CASE:
RELATED APPLICATIONS This application is a continuation-in-part of U.S. application Ser. No. 09/181,103, filed Oct. 28, 1998 now issued U.S. Pat. No. 6,010,683, which is a continuation-in-part of U.S. application Ser. No. 08/964,502, filed Nov. 5, 1997 (abandoned). For purposes of disclosure, the foregoing applications are incorporated herein by specific reference.

INT-CL: [07] A61 K 7/16, A61 K 7/18

US-CL-ISSUED: 424/52; 424/49
US-CL-CURRENT: 424/52; 424/49

FIELD-OF-SEARCH: 424/49-88

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	2968928	January 1961	Reed	252/305
☐	2995521	August 1961	Estignard-Bluard	252/90
☐	3011950	December 1961	Mehaffey	167/85
☐	3105612	October 1963	Krasnoff et al.	222/78
☐	3422993	January 1969	Boehm et al.	222/190
☐	3694546	September 1972	Roth et al.	424/45

☐	3707771	January 1973	Guerra	32/19
☐	3709437	January 1973	Wright	239/343
☐	3791098	February 1974	Webster	53/30
☐	3858764	January 1975	Watson	222/399
☐	3937235	February 1976	Broughton	132/84B
☐	3937364	February 1976	Wright	222/190
☐	3946108	March 1976	Tomlinson et al.	424/49
☐	3947567	March 1976	Berg, Jr. et al.	424/45
☐	3955942	May 1976	Cordon et al.	51/295
☐	3964649	June 1976	Alexander	222/399
☐	3985668	October 1976	Hartman	252/99
☐	3988433	October 1976	Benedict	424/53
☐	4018364	April 1977	Wright	222/190
☐	4022351	May 1977	Wright	222/145
☐	4027789	June 1977	Dickey	222/190
☐	4047645	September 1977	Caliendo	222/386.5
☐	4051056	September 1977	Hartman	252/99
☐	4066745	January 1978	Tomlinson et al.	424/49
☐	4093123	June 1978	Maran	239/322
☐	4102992	July 1978	Davis	424/49
☐	4111713	September 1978	Beck	106/288
☐	4143126	March 1979	Gaffar	424/49
☐	4184615	January 1980	Wright	222/190
☐	4588582	May 1986	Motarjemi	424/49
☐	4651905	March 1987	Hayes	222/394
☐	4770634	September 1988	Pellico	433/217.1
☐	4834969	May 1989	Grollier	424/49
☐	4836422	June 1989	Rosenberg	222/190
☐	4969577	November 1990	Werding	222/94
☐	4995533	February 1991	Vandoninck	222/54
☐	5048750	September 1991	Tobler	222/189
☐	5071637	December 1991	Pellico	424/45
☐	5073363	December 1991	Pellico	424/49
☐	5090595	February 1992	Vandoninck	222/54
☐	5110583	May 1992	Sampathkumar	242/48
☐	5124143	June 1992	Mullemann et al.	424/49
☐	5230648	July 1993	Kelley et al.	446/74
☐	5266304	November 1993	Baffelli et al.	424/49
☐	5407287	April 1995	Braun et al.	401/176
☐	5597553	January 1997	Baffelli et al.	424/49
☐	5665332	September 1997	Mundschenk et al.	424/49
☐	5736158	April 1998	Quast	424/464
☐	5824289	October 1998	Stoltz	424/45

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1319875	July 1993	CA	134/44
WO 82/03975	November 1982	WO	

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Workman, Nydegger, Seeley

ABSTRACT:

Toothpaste and other dentifrices formulated to include a volume increasing agent (density reducing agent) in order to significantly increase the volume of the toothpaste at the time it is dispensed onto a toothbrush. The inventive dental compositions preferably include a substantial quantity of entrained or trapped air or other gas in order to reduce the density, and hence the weight, of toothpaste actually placed within a person's mouth. The result is a reduction in the amount of active ingredients introduced into a person's mouth that might be ingested. The entrained air or other gas can also increase the availability of the active ingredient since the foamed composition increases the dispersibility of the active ingredients within saliva. The net effect is that a person decreases the actual amount of toothpaste without decreasing the volume, or visual amount, of toothpaste dispensed on the toothbrush. The density-reduction effect can alternatively be provided by means of a lower density filler in addition to, or instead of, the entrained gas. Such fillers typically include trapped air or voids.

36 Claims, 3 Drawing figures

WEST

Generate Collection Print

L6: Entry 28 of 51 File: USPT Jul 4, 2000

DOCUMENT-IDENTIFIER: US 6083489 A
**** See image for Certificate of Correction ****
TITLE: Dentifrices incorporating spherical particles for enhanced cleaning of teeth

Brief Summary Text (47):
Other dental agents or medicaments that can be included instead of, or in addition to, fluoride include antimicrobial agents that can be added to fight gum and periodontal diseases and desensitizing agents. Examples of antimicrobial agents include, but are not limited to chlorhexidine, tetracycline, cetyl pyridinium chloride, benzalkonium chloride, cetyl pyridinium bromide, methylbenzoate, propylbenzoate, and peroxides. Examples of desensitizing agents include, but are not limited to, potassium nitrate, citric acid, citric acid salts, strontium chloride, and the like.

Brief Summary Text (67):
In order for pre-foamed dentifrice compositions to have a commercially practical shelf-life, the foamed compositions need to be shelf stable as a foam for prolonged periods of time and subsequently be ready for application. Stabilized foaming agents within the scope of the present invention should be non-toxic and should not contribute to the formation of carries. There are many foaming and stabilizing agents known that are capable of safely and effectively stabilizing foamed dentifrice compositions including, but are not limited to, soaps, proteins, extract of licorice root, fatty acids, and sulfite liquids.

Brief Summary Text (79):
Colorants such as pigments and dyes may be used in the practice of the present invention. Pigments include non-toxic, water insoluble inorganic pigments such as titanium dioxide and chromium oxide greens, ultramarine blues and pinks and ferric oxides, as well as water insoluble dye lakes prepared by extending calcium or aluminum salts of FD&C dyes on alumina such as FD&C Green #1 lake, FD&C Blue #2 lake, FD&C #30 lake and FD&C # Yellow 15 lake. The pigments have a particle size in a range of about 0.1-500 microns, preferably about 0.1-50 microns, and are preferably included in a concentration of about 0.5% to about 3% by weight.

L6: Entry 28 of 51 File: USPT Jul 4, 2000

US-PAT-NO: 6083489
DOCUMENT-IDENTIFIER: US 6083489 A
**** See image for Certificate of Correction ****

TITLE: Dentifrices incorporating spherical particles for enhanced cleaning of teeth

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		
Jensen; Steven D.	South Jordan	UT		

US-CL-CURRENT: 424/52; 424/49

CLAIMS:

What is claimed and desired to be secured by United States Letters Patent is:

1. A dental composition having enhanced plaque-removal capability consisting essentially of:

a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof;

a fluoride ion source that provides from about 10 ppm to about 3500 ppm of fluoride ions;

at least about 10% by volume of substantially spherical plaque-cleaning particles having a particle size in a range from about 20 microns to about 150 microns in diameter, at least a portion of which maintain their particle size during plaque removal; and

an abrasive solid, separate from the substantially spherical plaque-cleaning particles, having a substantially irregular and nonspherical morphology and a particle size of less than about 10 microns and included in a concentration of less than about 30% by weight of the dental composition.

2. A dental composition having enhanced plaque-removal capability comprising:

a carrier selected from the group consisting of liquids, gels, pastes, and mixtures thereof;

a fluoride ion source that provides from about 10 ppm to about 3500 ppm of fluoride ions; and

at least about 10% by volume of at least one of hollow aluminum oxide, ceramic, or glass bubbles having a particle size in a range from about 10 microns to about 200 microns in diameter.

3. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles are included in an amount in a range from about 10% to about 90% by volume of the dental composition.

4. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles are included in an amount in a range from about 30% to about 70% by volume of the dental composition.

5. A dental composition as defined in claim 1, wherein the optional nonspherical abrasive has a particle size of less than about 1 micron.

6. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles comprise hollow glass bubbles.

7. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles have a density less than about 0.5 g/cm.sup.3.

8. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles have a density less than about 0.1 g/cm.sup.3.

9. A dental composition as defined in claim 1, further including an antimicrobial agent.

10. A dental composition as defined in claim 1, wherein the dental composition has a rheology such that it may be expressed onto a toothbrush using a squeeze tube.

11. A dental composition as defined in claim 1, wherein the substantially spherical plaque-cleaning particles are included in an amount in a range from about 20% to about 80% by volume of the dental composition and have a particle size in a range from about 30 microns to about 120 microns in diameter.

12. A dental composition as defined in claim 2, wherein the dental composition has a rheology such that it may be expressed onto a toothbrush using a squeeze tube.

13. A dental composition as defined in claim 2, further including an abrasive solid having a substantially irregular and nonspherical morphology and a particle size of less than about 10 microns.

WEST

Generate Collection | Print

L6: Entry 28 of 51 File: USPT Jul 4, 2000

US-PAT-NO: 6083489
DOCUMENT-IDENTIFIER: US 6083489 A
**** See image for Certificate of Correction ****

TITLE: Dentifrices incorporating spherical particles for enhanced cleaning of teeth

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		
Jensen; Steven D.	South Jordan	UT		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Ultradent Products, Inc.	South Jordan	UT			02

APPL-NO: 09/ 360720 [PALM]
DATE FILED: July 27, 1999

PARENT-CASE:
BACKGROUND OF THE INVENTION 1. Related Applications This application is a continuation-in-part of U.S. application Ser. No. 09/181,103, filed Oct. 28, 1998, now U.S. Pat. No. 6,010,683 which is a continuation-in-part of U.S. application Ser. No. 08/964,502, filed Nov. 5, 1997 (abandoned). For purposes of disclosure, the foregoing applications are incorporated herein by specific reference.

INT-CL: [07] A61 K 7/16, A61 K 7/18

US-CL-ISSUED: 424/52; 424/49
US-CL-CURRENT: 424/52; 424/49

FIELD-OF-SEARCH: 424/49-88

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	Re29808	October 1978	Wagner	51/401
☐	2196154	April 1940	Schulerud	167/93
☐	2806772	September 1957	Robie	51/296
☐	2986455	May 1961	Sandmeyer	51/296
☐	2995521	August 1961	Etignard-Bluard	252/90
☐	3715604	February 1973	Colodney et al.	424/52
☐	3803301	April 1974	Cordon et al.	424/49
☐	3929987	December 1975	Colodney et al.	424/52
☐	3946108	March 1976	Tomlinson et al.	424/49
☐	3947567	March 1976	Berg, Jr. et al.	424/45
☐	3955942	May 1976	Cordon et al.	51/295
☐	3985668	October 1976	Hartman	252/99
☐	3988433	October 1976	Benedict	424/53
☐	4051056	September 1977	Hartman	252/99
☐	4066745	January 1978	Tomlinson et al.	424/49
☐	4102992	July 1978	Davis	424/49
☐	4111713	September 1978	Beck	106/288
☐	4132533	January 1979	Lohmer et al.	51/295
☐	4543106	September 1985	Pargkh	51/295
☐	4588582	May 1986	Motarjemi	424/49
☐	4770634	September 1988	Pellico	433/217.1
☐	4799939	January 1989	Bloecher et al.	51/293
☐	4834969	May 1989	Grollier	424/49
☐	5037453	August 1991	Narayanan et al.	51/307
☐	5071637	December 1991	Pellico	424/45
☐	5073363	December 1991	Pellico	424/49
☐	5124143	June 1992	Mullemann et al.	424/49
☐	5266304	November 1993	Baffelli et al.	424/49
☐	5443603	August 1995	Kirkendall	51/296
☐	5472461	December 1995	Li	51/296
☐	5597553	January 1997	Baffelli et al.	424/49.
☐	5824289	October 1998	Stoltz	424/45

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1319875	July 1993	CA	134/44
WO82/03975	November 1982	WO	

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Workman, Nydegger & Seeley

ABSTRACT:

Toothpaste and other dentifrices formulated to include substantially spherical cleaning particles for enhanced plaque-removal capability. The cleaning particles are relatively large, having a diameter in a range from about 10 microns to about 200 microns, and are substantially round-edge and nonjagged so as to be far less abrasive compared to conventional abrasive particles, which tend to have a more jagged profile. Preferred cleaning particles include hollow glass spheres, which not only provide enhanced plaque-removal properties but which yield dental compositions having greatly reduced density. Air and other gases may optionally be entrained into the inventive dental compositions, either during manufacture or upon dispensing the dental compositions onto a toothbrush.

13 Claims, 0 Drawing figures

L6: Entry 30 of 51 File: USPT Jan 4, 2000

DOCUMENT-IDENTIFIER: US 6010683 A
**** See image for Certificate of Correction ****
TITLE: Compositions and methods for reducing the quantity but not the concentration of active ingredients delivered by a dentifrice

Detailed Description Text (25):
Other dental agents or medicaments that can be included instead of, or in addition to, fluoride include antimicrobial agents that can be added to fight gum and periodontal diseases and desensitizing agents. Examples of antimicrobial agents include, but are not limited to chlorhexadine, tetracycline, cetyl pyridinium chloride, benzalkonium chloride, cetyl pyridinium bromide, methylbenzoate, propylbenzoate, and peroxides. Examples of desensitizing agents include, but are not limited to, potassium nitrate, citric acid, citric acid salts, strontium chloride, and the like.

Detailed Description Text (45):
In order for pre-foamed dentifrice compositions to have a commercially practical shelf-life, the foamed compositions need to be shelf stable as a foam for prolonged periods of time and subsequently be ready for application. Stabilized foaming agents within the scope of the present invention should be non-toxic and should not contribute to the formation of carries. There are many foaming and stabilizing agents known that are capable of safely and effectively stabilizing foamed dentifrice compositions including, but are not limited to, soaps, proteins, extract of licorice root, fatty acids, and sulfite liquids.

Detailed Description Text (57):
Colorants such as pigments and dyes may be used in the practice of the present invention. Pigments include non-toxic, water insoluble inorganic pigments such as titanium dioxide and chromium oxide greens, ultramarine blues and pinks and ferric oxides, as well as water insoluble dye lakes prepared by extending calcium or aluminum salts of FD&C dyes on alumina such as FD&C Green #1 lake, FD&C Blue #2 lake, FD&C #30 lake and FD&C # Yellow 15 lake. The pigments have a particle size in a range of about 0. 1-500 microns, preferably about 0.1-50 microns, and are preferably included in a concentration of about 0.5% to about 3% by weight.

L6: Entry 30 of 51 File: USPT Jan 4, 2000

US-PAT-NO: 6010683
DOCUMENT-IDENTIFIER: US 6010683 A
**** See image for Certificate of Correction ****

TITLE: Compositions and methods for reducing the quantity but not the concentration of active ingredients delivered by a dentifrice

DATE-ISSUED: January 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		

US-CL-CURRENT: 424/52; 424/49

CLAIMS:

What is claimed and desired to be secured by United States Letters Patent is:

1. In the fluoride delivering dental method for a child, one having the tendency to apply too much fluoride toothpaste onto its child-sized toothbrush, to lay out a solid strip of fluoride toothpaste across the length of the tops of the bristles of its child-sized toothbrush, as adults do on the entire length of their adult-sized toothbrush, instead of a pea-sized quantity laid on the child's toothbrush, said pea-sized amount being typically about 1/3 the amount of toothpaste needed to fully cover the tops of the bristles an adult-sized toothbrush, whereby the ingestion of too much fluoride can lead to the development of fluorosis, causing brown mottled enamel, said fluoride toothpaste having a quantity of fluoride that while safe when ingested by an adult might be harmful if ingested by a child, said toothpaste tasting good to encourage brushing, said good taste having the negative side effect of enticing children to swallow the toothpaste while they brush, the taste having a tendency to cause children to swallow substantial amounts of fluoride toothpaste, the improvement comprising the steps of:

(1) providing an expanded dental composition which comprises:

(a) a base composition including a fluoride source, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, and mixtures thereof; and

(b) a gaseous component dispersed throughout the base composition and included in an amount in order to increase the volume of the base composition so as to yield the expanded dental composition, the expanded dental composition having a volume in relation to the base composition so that an amount of the expanded dental composition sufficient to substantially cover the tops of the bristles of a child-sized toothbrush provides a quantity of fluoride that does not significantly exceed the quantity of fluoride that would be provided by a pea-size quantity of the base composition absent the gaseous component; and

(2) contacting a child's teeth with the expanded dental composition.

2. A method as defined in claim 1, wherein the gaseous component reduces the density of the expanded dental composition by an amount greater than about 20%

in relation to the density the base composition.

3. A method as defined in claim 1, wherein the gaseous component reduces the density of the expanded dental composition by an amount greater than about 30% in relation to the density the base composition.

4. A method as defined in claim 1, wherein the gaseous component reduces the density of the expanded dental composition by an amount greater than about 50% in relation to the density the base composition.

5. A method as defined in claim 1, wherein the gaseous component comprises a gas that is dispersed throughout the base composition during manufacture such that the expanded dental composition comprises a pre-foamed dental composition.

6. A method as defined 5, wherein the gas is included within the expanded dental composition in an amount in a range from about 10% to about 90% by volume of the expanded dental composition.

7. A method as defined in claim 5, wherein the expanded dental composition further includes a foaming agent that stabilizes the pre-foamed dental composition such that the expanded dental composition is capable of being stored for a desired period of time within a storage container without significant collapse of the foam.

8. A method as defined in claim 1, wherein the expanded dental composition further includes a lower density solid filler that, in combination with the gaseous component, yields a desired level of expansion.

9. A method as defined in claim 1, wherein the gaseous component comprises initially compressed gas that causes the base composition to foam and expand to form the expanded dental composition upon dispensing the base composition and compressed gas from a storage container.

10. A method as defined in claim 9, wherein the compressed gas is premixed with the base composition and the premixed compressed gas and base composition are initially stored within a pressurized storage container.

11. A method as defined in claim 9, wherein the compressed gas is stored in a compartment separate from, but in communication with, a storage container containing the base composition such that the compressed gas mixes with the base composition and causes the base composition to foam and expand upon dispensing the mixture of base composition and compressed gas.

12. A method as defined in claim 1, wherein the fluoride source is included in an amount such that the expanded dental composition provides a fluoride ion concentration in a range from about 10 ppm to about 3500 ppm.

13. A method as defined in claim 1, wherein the fluoride ion source is included in an amount such that the expanded dental composition provides a fluoride ion concentration in a range from about 850 ppm to about 1150 ppm.

14. A method as defined in claim 1, wherein the expanded dental composition has a volume in a range from about 110% to about 1000% relative to the volume of the base composition absent the gaseous component.

15. A method as defined in claim 14, wherein the expanded dental composition has a volume greater than about 125% relative to the volume of the base composition absent the gaseous component.

16. A method as defined in claim 14, wherein the expanded dental composition has a volume greater than about 200% relative to the volume of the base composition absent the gaseous component.

17. A method as defined in claim 14, wherein the expanded dental composition has a volume greater than about 400% relative to the volume of the base composition

absent the gaseous component.

18. In the fluoride delivering dental method for a child, one having the tendency to apply too much fluoride toothpaste onto its child-sized toothbrush, to lay out a solid strip of fluoride toothpaste across the length of the tops of the bristles of its child-sized toothbrush, as adults do on the entire length of their adult-sized toothbrush, instead of a pea-sized quantity laid on the child's toothbrush, said pea-sized amount being typically about 1/3 the amount of toothpaste needed to fully cover the tops of the bristles an adult-sized toothbrush, whereby the ingestion of too much fluoride can lead to the development of fluorosis, causing brown mottled enamel, said fluoride toothpaste having a quantity of fluoride that while safe when ingested by an adult might be harmful if ingested by a child, said toothpaste tasting good to encourage brushing, said good taste having the negative side effect of enticing children to swallow the toothpaste while they brush, the taste having a tendency to cause children to swallow substantial amounts of fluoride toothpaste, wherein the improvement comprises the steps of:

(1) providing a pre-foamed dental composition comprising:

(a) a base composition including a fluoride source, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, and mixtures thereof; and

(b) entrained gas dispersed throughout the base composition in an amount in a range from about 10% to about 90% by volume of the pre-foamed dental composition such that the entrained gas increases the volume of the pre-foamed dental composition by an amount in a range from about 110% to about 1000% relative to the volume of the base composition exclusive of the volume of the entrained gas, wherein an amount of the pre-foamed dental composition sufficient to substantially cover the tops of the bristles of a child-sized toothbrush provides a quantity of fluoride that does not significantly exceed the quantity of fluoride that would be provided by a pea-size quantity of the base composition absent the entrained gas; and

(2) contacting a child's teeth with the pre-foamed dental composition.

19. A method as defined in claim 18, wherein the entrained gas has a concentration greater than about 20% by volume of the pre-foamed dental composition upon delivering the pre-foamed dental composition from a storage container.

20. A method as defined in claim 18, wherein the entrained gas has a concentration greater than about 30% by volume of the pre-foamed dental composition upon delivering the pre-foamed dental composition from a storage container.

21. A method as defined in claim 18, wherein the entrained gas has a concentration greater than about 50% by volume of the pre-foamed dental composition upon delivering the pre-foamed dental composition from a storage container.

22. A method as defined in claim 18, wherein the pre-foamed dental composition undergoes further expansion in situ upon dispensing the pre-foamed dental composition from a storage container.

23. A method as defined in claim 18, wherein the pre-foamed dental composition further includes a lower density solid filler.

24. A method as defined in claim 18, wherein the fluoride source is included in an amount such that the pre-foamed dental composition provides a fluoride ion concentration in a range from about 10 ppm to about 3500 ppm.

25. A method as defined in claim 18, wherein the fluoride source is included in an amount such that the pre-foamed dental composition provides a fluoride ion

concentration in a range from about 850 ppm to about 1150 ppm.

26. A method as defined in claim 18, wherein the fluoride source is included in an amount such that the pre-foamed dental composition provides a fluoride ion concentration of about 900 ppm.

27. A method as defined in claim 18, the pre-foamed dental composition further including an antimicrobial agent.

28. A method as defined in claim 18, the pre-foamed dental composition further including a desensitizing agent.

29. In the fluoride delivering dental method for a child, one having the tendency to apply too much fluoride toothpaste onto its child-sized toothbrush, to lay out a solid strip of fluoride toothpaste across the length of the tops of the bristles of its child-sized toothbrush, as adults do on the entire length of their adult-sized toothbrush, instead of a pea-sized quantity laid on the child's toothbrush, said pea-sized amount being typically about 1/3 the amount of toothpaste needed to fully cover the tops of the bristles an adult-sized toothbrush, whereby the ingestion of too much fluoride can lead to the development of fluorosis, causing brown mottled enamel, said fluoride toothpaste having a quantity of fluoride that while safe when ingested by an adult might be harmful if ingested by a child, said toothpaste tasting good to encourage brushing, said good taste having the negative side effect of enticing children to swallow the toothpaste while they brush, the taste having a tendency to cause children to swallow substantial amounts of fluoride toothpaste, wherein the improvement comprises the steps of:

(1) providing an expanded dental composition comprising:

(a) a base composition including a fluoride source, an abrasive solid, and a carrier selected from the group consisting of liquids, gels, and mixtures thereof; and

(b) a gaseous component and a lower density solid filler component which are dispersed throughout the base composition and included in amounts sufficient to increase the volume of the base composition so as to yield the expanded dental composition, the expanded dental composition having a volume in relation to the base composition so that an amount of the expanded dental composition sufficient to substantially cover the tops of the bristles of a child-sized toothbrush provides a quantity of fluoride that does not significantly exceed the quantity of fluoride that would be provided by a pea-size quantity of the base composition absent the gaseous and lower density solid filler components; and

(2) contacting a child's teeth with the expanded dental composition.

30. A method as defined in claim 29, wherein the lower density solid filler component is included in an amount so as to increase the volume of the expanded dental composition by an amount greater than about 20% in relation to the volume of the base composition absent the lower density solid filler component.

31. A method as defined in claim 29, wherein the lower density solid filler component is included in an amount so as to increase the volume of the expanded dental composition by an amount greater than about 30% in relation to the volume of the base composition absent the lower density solid filler component.

32. A method as defined in claim 29, wherein the lower density solid filler component is included in an amount so as to increase the volume of the expanded dental composition by an amount greater than about 50% in relation to the volume of the base composition absent the lower density solid filler component.

33. A method as defined in claim 29, wherein the lower density solid filler component has a density less than about 0.5 g/cm.sup.3.

34. A method as defined in claim 29, wherein the lower density solid filler

component has a density less than about 0.3 g/cm.sup.3.

35. A method as defined in claim 29, wherein the lower density solid filler component has a density less than about 0.1 g/cm.sup.3.

36. A method as defined in claim 29, wherein the lower density solid filler component imparts an abrasive action to the expanded dental composition.

37. A method as defined in claim 29, wherein the lower density solid filler component comprises an inorganic material.

38. A method as defined in claim 1, wherein the step of contacting a child's teeth with the expanded dental composition is performed using a child-sized toothbrush.

39. A method as defined in claim 1, wherein the step of contacting a child's teeth with the expanded dental composition is performed using an adult-sized toothbrush.

40. A method as defined in claim 18, wherein the step of contacting a child's teeth with the pre-foamed dental composition is performed using a child-sized toothbrush.

41. A method as defined in claim 18, wherein the step of contacting a child's teeth with the pre-foamed dental composition is performed using an adult-sized toothbrush.

42. A method as defined in claim 29, wherein the step of contacting a child's teeth with the expanded dental composition is performed using a child-sized toothbrush.

43. A method as defined in claim 29, wherein the step of contacting a child's teeth with the expanded dental composition is performed using an adult-sized toothbrush.

WEST

Generate Collection | Print

L6: Entry 30 of 51 File: USPT Jan 4, 2000

US-PAT-NO: 6010683
DOCUMENT-IDENTIFIER: US 6010683 A
**** See image for Certificate of Correction ****

TITLE: Compositions and methods for reducing the quantity but not the concentration of active ingredients delivered by a dentifrice

DATE-ISSUED: January 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fischer; Dan E.	Sandy	UT		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Ultradent Products, Inc.	South Jordan	UT			02

APPL-NO: 09/ 181103 [PALM]
DATE FILED: October 28, 1998

PARENT-CASE:
RELATED APPLICATIONS This application is a continuation-in-part of copending U.S. application Ser. No. 08/964,502, filed Nov. 5, 1997 (abandoned). For purposes of disclosure, the foregoing application is incorporated herein by specific reference.

INT-CL: [06] A61 K 7/16, A61 K 7/18

US-CL-ISSUED: 424/52; 424/49
US-CL-CURRENT: 424/52; 424/49

FIELD-OF-SEARCH: 424/49-58

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	2968628	January 1961	Reed	252/305
☐	2995521	August 1961	Estignard	252/90
☐	3011950	December 1961	Mehaffey	167/85
☐	3105612	October 1963	Krasnoff et al.	222/78
☐	3422993	January 1969	Boehm et al.	222/190
☐	3694546	September 1972	Roth et al.	424/45
☐	3707771	January 1973	Guerra	32/19
☐	3709437	January 1973	Wright	239/343

☐	3791098	February 1974	Webster	53/30
☐	3858764	January 1975	Watson	222/399
☐	3937235	February 1976	Broughton	132/84B
☐	3937364	February 1976	Wright	222/190
☐	3946108	March 1976	Tomlinson et al.	424/49
☐	3947567	March 1976	Berg et al.	424/45
☐	3955942	May 1976	Cordon et al.	51/295
☐	3964649	June 1976	Alexander	222/399
☐	3985668	October 1976	Hartman	252/99
☐	3988433	October 1976	Benedict	424/53
☐	4018364	April 1977	Wright	222/190
☐	4022351	May 1977	Wright	222/145
☐	4027789	June 1977	Dickey	222/190
☐	4047645	September 1977	Caliendo	222/386.5
☐	4051056	September 1977	Hartman	252/99
☐	4066745	January 1978	Tomlinson et al.	424/49
☐	4093123	June 1978	Maran	239/322
☐	4102992	July 1978	Davis	424/49
☐	4111713	September 1978	Beck	106/288
☐	4143126	March 1979	Gaffar	424/49
☐	4184615	January 1980	Wright	222/190
☐	4588582	May 1986	Motarjemi	424/49
☐	4651905	March 1987	Hayes	222/394
☐	4770634	September 1988	Pellico	424/52
☐	4834969	May 1989	Grollier	424/49
☐	4836422	June 1989	Rosenberg	222/190
☐	4969577	November 1990	Werding	222/94
☐	4995533	February 1991	Vandoninck	222/54
☐	5048750	September 1991	Tobler	222/189
☐	5071637	December 1991	Pellico	424/45
☐	5073363	December 1991	Pellico	424/49
☐	5090595	February 1992	Vandoninck	222/54
☐	5110583	May 1992	Sampathkumar	242/48
☐	5124143	June 1992	Mullemann et al.	424/49
☐	5230648	July 1993	Kelley et al.	446/74
☐	5266304	November 1993	Baffelli et al.	424/49
☐	5407287	April 1995	Braun et al.	401/176
☐	5597553	January 1997	Baffelli et al.	424/49
☐	5665332	September 1997	Mundschenk et al.	424/49
☐	5736158	April 1998	Quast	424/464
☐	5824289	October 1998	Stoltz	424/45

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1319875	July 1993	CA	
82/03975	November 1982	WO	

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Workman, Nydegger, Seeley

ABSTRACT:

Toothpaste and other dentifrices formulated to include a volume increasing agent (density reducing agent) in order to significantly increase the volume of the toothpaste at the time it is dispensed onto a toothbrush. The inventive dental compositions preferably include a substantial quantity of entrained air or other gas in order to reduce the density, and hence the weight, of toothpaste actually placed within a person's mouth. The result is a reduction in the amount of active ingredients introduced into a person's mouth that might be ingested. The entrained air or other gas can also increase the availability of the active ingredient since the foamed composition increases the dispersibility of the active ingredients within saliva. The net effect is that a person decreases the actual amount of toothpaste without decreasing the volume, or visual amount, of toothpaste dispensed on the toothbrush. The density-reduction effect can be augmented using a low density filler in addition to, or instead of, entrained gas. The inventive dentifrices might be pre-foamed with a storage container or formulated to foam in situ when dispensed from the storage container.

43 Claims, 3 Drawing figures

L8: Entry 80 of 83 File: JPAB Aug 9, 1989

PUB-NO: JP401197440A
DOCUMENT-IDENTIFIER: JP 01197440 A
TITLE: HERB AND CANDY FOR CONSTIPATION CONTAINING THE SAME

PUBN-DATE: August 9, 1989

INVENTOR-INFORMATION:
NAME COUNTRY
KAINUMA, KATSUSUKE
TERADA, TAKEHIRO

ASSIGNEE-INFORMATION:
NAME COUNTRY
SHOWA KOSAN KK

APPL-NO: JP63018557
APPL-DATE: January 30, 1988

INT-CL (IPC): A61K 35/78; A23G 3/00

ABSTRACT:

PURPOSE: To obtain a candy for constipation by adding a herb containing a cathartic component or extract therefrom to candy, thus tasting good in no need of water, when taking, and easily acquiring the habit.

CONSTITUTION: As a part of raw materials, a herb containing a cathartic component, such as aloe, rose fruits, rhubarb, caster beans or glycyrrhiza or extract therefrom is added. The saccharide as a base material is malt syrup, sucrose, reduced maltose, and additionally sorbit which can be expected to have a little laxative action. Further, a variety of oligosaccharides which have been regarded as to be useful for enterobacteria such as isomaltose, fructooligosaccharide also may be added for expectation of natural dejection.

L8: Entry 80 of 83 File: JPAB Aug 9, 1989

DOCUMENT-IDENTIFIER: JP 01197440 A
TITLE: HERB AND CANDY FOR CONSTIPATION CONTAINING THE SAME

Abstract Text (2):
CONSTITUTION: As a part of raw materials, a herb containing a cathartic component, such as aloe, rose fruits, rhubarb, caster beans or glycyrrhiza or extract therefrom is added. The saccharide as a base material is malt syrup, sucrose, reduced maltose, and additionally sorbit which can be expected to have a little laxative action. Further, a variety of oligosaccharides which have been regarded as to be useful for enterobacteria such as isomaltose, fructooligosaccharide also may be added for expectation of natural dejection.

WEST

Generate Collection | Print

L8: Entry 80 of 83 File: JPAB Aug 9, 1989

PUB-NO: JP401197440A
DOCUMENT-IDENTIFIER: JP 01197440 A
TITLE: HERB AND CANDY FOR CONSTIPATION CONTAINING THE SAME

PUBN-DATE: August 9, 1989

INVENTOR-INFORMATION:
NAME COUNTRY
KAINUMA, KATSUSUKE
TERADA, TAKEHIRO

INT-CL (IPC): A61K 35/78; A23G 3/00

ABSTRACT:

PURPOSE: To obtain a candy for constipation by adding a herb containing a cathartic component or extract therefrom to candy, thus tasting good in no need of water, when taking, and easily acquiring the habit.

CONSTITUTION: As a part of raw materials, a herb containing a cathartic component, such as aloe, rose fruits, rhubarb, caster beans or glycyrrhiza or extract therefrom is added. The saccharide as a base material is malt syrup, sucrose, reduced maltose, and additionally sorbit which can be expected to have a little laxative action. Further, a variety of oligosaccharides which have been regarded as to be useful for enterobacteria such as isomaltose, fructooligosaccharide also may be added for expectation of natural dejection.

WEST

End of Result Set

Generate Collection | Print

L13: Entry 5 of 5 File: USPT Dec 5, 1995

DOCUMENT-IDENTIFIER: US 5472954 A
**** See image for Certificate of Correction ****
TITLE: Cyclodextrin complexation

Detailed Description Text (6):
Suitable polymers for use herein are those which are soluble in water, are acceptable for use in pharmaceuticals and are pharmacologically inactive. Such polymers are well-known excipients commonly used in the field of pharmaceutical formulations. [See, for example, Remington's Pharmaceutical Sciences, 18th edition, Alfonso R. Gennaro (editor), Mack Publishing Company, Easton, Pa., 1990, pp. 291-294; Alfred Martin, James Swarbrick and Arthur Commaram, Physical Pharmacy. Physical Chemical Principles in Pharmaceutical Sciences, 3rd edition, Lea & Febinger, Philadelphia, Pa., 1983, pp. 592-638; A. T. Florence and D. Altwood, Physicochemical Principles of Pharmacy, 2nd edition, MacMillan Press, London, 1988, pp. 281-334.] Suitable polymers include water-soluble natural polymers, water-soluble semi-synthetic polymers (such as the water-soluble derivatives of cellulose) and water-soluble synthetic polymers. The natural polymers include polysaccharides such as inulin, pectins, algin derivatives (e.g., sodium alginate) and agar, and polypeptides such as casein and gelatin. The semisynthetic polymers include cellulose derivatives such as methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, their mixed ethers such as hydroxypropyl methylcellulose and other mixed ethers such as hydroxyethyl ethylcellulose and hydroxypropyl ethylcellulose, hydroxypropyl methylcellulose phthalate and carboxymethylcellulose and its salts, especially sodium carboxymethylcellulose. The synthetic polymers include polyoxyethylene derivatives (polyethylene glycols) and polyvinyl derivatives (polyvinyl alcohol, polyvinylpyrrolidone and polystyrene sulfonate) and various copolymers of acrylic acid (e.g., carbomer). Other natural, semi-synthetic and synthetic polymers not named here which meet the criteria of water solubility, pharmaceutical acceptability and pharmacological inactivity are likewise considered to be within the arebit of the present invention. Particularly preferred polymers for use herein are sodium carboxymethylcellulose, hydroxypropyl methylcellulose and polyvinylpyrrolidone.

Detailed Description Text (14):
Specific drugs contemplated for use in the methods and compositions of the present invention include antineoplastics such as chlorambucil, lomustine, melphalan, methotrexate, hexamethylmelamine, teniposide, etoposide, semustine (methyl CCNU), fazarabine (Ara-AC), mercaptopurine, tubulazole, carmofur, carmustine, amsacrine, doxorubicin, bruceantin, diaziquone, dideminin B, echinomycin and PCNU; anti-inflammatory steroids such as betamethasone, fludrocortisone, dexamethasone, cortisone, hydrocortisone, triamcinolone, triamcinolone acetonide, prednisone and prednisolone; estrogens such as 17.beta.-estradiol, 17.alpha.-ethynylestradiol (ethinylestradiol), ethynylestradiol 3-methyl ether, estrone, mestranol and estriol; progestins such as dimethisterone, norethindrone, norethindrone acetate, norgestrel, norethynodrel, ethisterone, medroxyprogesterone acetate and progesterone; anticonvulsants such as phenytoin (diphenylhydantoin) and carbamazepine; barbiturates such as pentobarbital, phenobarbital and secobarbital, variously useful as hypnotics, anticonvulsants and sedatives; antivirals such as acyclovir, trifluridine, zidovudine, vidarabine and virazole (also known as ribavirin); vitamins/nutritional factors such as retinol (vitamin A), vitamin A-acetate, cholecalciferol, retinal, retinoic acid (also know as tretinoin or Retin-A.TM.), isotretinoin, etretinate, acitretin and B-carotene, collectively referred to herein

as retinoids, as well as other fat-soluble vitamins such as the E, D and K vitamins; .beta.-blockers such as timolol and atenolol, propranolol and nadolol, of interest not only as antihypertensives but also as anti-glaucoma agents; emetics such as apomorphine; diuretics such as chlorthalidone, furosemide and other sulfonamide-type diuretics and spironolactone, an aldosterone antagonist-type diuretic; anticoagulants such as dicumarol; cardiotonics such as digoxin and digitoxin; non-steroidal analgesics and/or anti-inflammatory agents such as aspirin, ibuprofen, indomethacin, piroxicam, sulindac and flurbiprofen; androgens such as 17-methyltestosterone and testosterone; mineral corticoids such as desoxycorticosterone; steroidal hypnotics/anesthetics such as alfaxalone; anabolic agents such as fluoxymesterone and methanstenolone; antidepressams such as sulpiride; antibiotics such as ampicillin and penicillin G; anti-infectives, such as benzalkonium chloride, cetylpyridinium chloride and chlorhexidine; coronary vasodilators such as nitroglycerin, flunarizine, lidoflazine and mioflazine; hypnotics such as etomidate; carbonic anhydrase inhibitors such as acetazolamide, chlorzolamide, ethoxzolamine, methazolamide, L-671,152 and MK-927; antifungals such as imidazole-type antifungals, e.g., econazole, clotrimazole, oxiconazole, bifonazole, metronidazole (metronidazole benzoate), fenticonazole, miconazole, sulconazole, tioconazole, isoconazole, butoconazole, ketoconazole, doconazole, parconazole, orconazole, valconazole and Iombazole, and trizole-type antifungals, e.g., terconazole and itraconazole; antiprotozoals such as imidazole-type antiprotozoals, e.g. , metronidazole, ornidazole, camidazole, ipronidazole, tinidazole and nimorazole, and benzimidazole-type antifungals, e.g., flubendazole; H.sub.2 -antagonists, including those of the imidazole-type, e.g., burimamide, metiamide, cimetidine and oxmetidine; imidazole-type antineoplastics, such as tubulazole, a microtubule inhibitor; anthelmintic agents, including those of the benzimidazole-type, for example, thiabendazole, oxibendazole, cambendazole, fenbendazole, flubendazole, albendazole and oxfendazole; antihistaminics, including benzimidazoles such as astemizole, piperidines such as levocabastine and piperazines such as flunarizine, oxatomide and cinnarizine; antipsychotics, including those of the piperidine-type such as fluspirilene, pimozide and penfluridole; gastrointestinal agents, including piperidine derivatives such as loperamide and cisapride; serotonin antagonists, for example those of the piperidine-type such as ketanserin, ritanserin and altanserin, and those of the piperazine-type such as mianserin (also an antihistaminic); anesthetics such as lidocaine; hypoglycemics such as acetohexamide; anti-emetics such as dimenhydrinate; antibacterials such as cotrimoxazole; dopaminergic agents such as L-DOPA; anti-Alzheimer's agents such as THA; famotidine, an anti-ulcer agent/H.sub.2 -antagonist; benzodiazepines, for example chlordiazepoxide, diazepam, medazepam, oxazepam, lorazepam, flunitrazepam, estazolam, flurazepam, loprazolam, lormetazepam, nitrazepam, quazepam, temazepam and triazolam, variously useful as sedatives, hypnotics, anticonvulsants, tranquilizers and muscle relaxams; prostaglandins, for example PGE's such as PGE.sub.1 (alprostadil), a vasodilator, and PGI.sub.2 (prostacyclin or epoprostenol), a platelet inhibitor; angiotensive converting enzyme inhibitors (ACE inhibitors), such as enalaprilic acid (the diacid, sometimes called `enalaprilate`), the ethyl ester of enalaprilic acid (sometimes called enalapril), captopril, lisinopril and SCH-33861, useful as antihypertensives; tetracycline antibiotics, such as tetracycline, chlortetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline and minocycline; and macrolide antibiotics, such as erythromycin, josamycin, rosamycin, tylosin, troleandomycin and spiramycin.

Detailed Description Text (104):
Hydrocortisone mouthwash was prepared in the following way: HP.beta.CD MS=0.6 (3.5% (w/v)), peppermint oil (0.05% (w/v)), ethanol (12% (v/v)), CMC (0.5% (w/v)), benzalkonium chloride (0.02% (w/v)) and the sodium salt of ethylenediaminetetraacetic acid (0.1% (w/v)) were dissolved in water and the solution was heated in a sealed container in an autoclave (120.degree. C. for 20 minutes). After equilibration to room temperature, hydrocortisone (0.3% (w/v)) was dissolved in the cyclodextrin solution.

Detailed Description Text (105):
The topical activity of the hydrocortisone mouthwash solution was evaluated as follows: Patients were selected on the basis of severe ulceration, causing considerable pain, discomfort, inconvenience with work and the like. Normally the patients had unsuccessfully tried numerous other remedies such as gentian violet,

chlorhexidine, silver nitrate, hydrocortisone, and triamcinolone, from a variety of sources. Each patient washed his/her mouth with 5-10 ml of the hydrocortisone mouthwash three to four times a day and the results were evaluated after treatment for two weeks. The results are shown in Table 9.

Detailed Description Paragraph Table (10):

TABLE 9 Clinical results of treatment of patients with hydrocortisone mouthwash. Number of patients

No Im-	Disease	Total	Worse	Change	proved	Relapsed*
Lichen Planus	17	1	2	14	1	
Recurrent oral ulceration	6	0	0	6	1	
Miscellaneous autoimmune disease	8	0	2	6	1	

*Relapse, of those which showed improvement, within 6 months after end of treatment.

CLAIMS:

11. The method according to claim 10, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

36. The method according to claim 35, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

58. The co-complex according to claim 57, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

78. The composition according to claim 77, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

95. The composition according to claim 73, wherein all ingredients are acceptable for use in a mouthwash, and wherein the active ingredient is a steroid, an antifungal, an antiviral or an antiseptic, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

103. The composition according to claim 102, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

119. The composition according to claim 96, wherein all ingredients are acceptable for use in a mouthwash, and wherein the active ingredient is a steroid, an antifungal, an antiviral or an antiseptic, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

WEST

End of Result Set

Generate Collection Print

L13: Entry 5 of 5 File: USPT Dec 5, 1995

US-PAT-NO: 5472954
DOCUMENT-IDENTIFIER: US 5472954 A
**** See image for Certificate of Correction ****

TITLE: Cyclodextrin complexation

DATE-ISSUED: December 5, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loftsson; Thorsteinn	Reykjavik			IS

US-CL-CURRENT: 514/58; 514/772.2, 514/772.3, 514/772.6, 514/773, 514/777, 514/779, 514/781, 536/103

CLAIMS:

What is claimed is:

1. A method for enhancing the complexation of cyclodextrin with a lipophilic and/or water-labile active ingredient which is a drag, cosmetic additive, food additive or agrochemical, said method comprising combining from about 0.1 to about 70% (weight/volume) of cyclodextrin, from about 0.001 to about 5% (weight/volume) of a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, and said lipophilic and/or water-labile active ingredient in an aqueous medium, the polymer and cyclodextrin being dissolved in the aqueous medium before the active ingredient is added, the aqueous medium which comprises the polymer and cyclodextrin being maintained at from about 30.degree. to about 150.degree. C. for a period of from about 0.1 to about 100 hours before, during and/or after the active ingredient is added, optionally followed by removal of water.

2. The method according to claim 1, wherein the aqueous medium is maintained at from about 30.degree. to about 150.degree. C. for from about 0.1 to about 100 hours before the active ingredient is added.

3. The method according to claim 1, wherein the aqueous medium is maintained at from about 30.degree. to about 150.degree. C. for from about 0.1 to about 100 hours after the active ingredient is added.

4. The method according to claim 1, wherein the amount of water-soluble polymer is from about 0.01 to about 0.5% (weight/volume).

5. The method according to claim 1, wherein the cyclodextrin comprises at least one member selected from the group consisting of .alpha.-, .beta.- and .gamma.-cyclodextrhn and the hydroxypropyl, hydroxyethyl, dihydroxypropyl, glucosyl and maltosyl derivatives of .alpha.-, .beta.- and .gamma.-cyclodextrin having a molar degree of substitution of from about 0.05 to about 10.

6. The method according to claim 1, wherein the pharmacologically inactive water-soluble polymer is a cellulose derivative.

7. The method according to claim 6, wherein the cellulose derivative is

methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl methylcellulose, hydroxypropyl ethylcellulose, hydroxyethyl ethyl cellulose or sodium carboxymethylcellulose.

8. The method according to claim 7, wherein the cellulose derivative is hydroxypropyl methylcellulose.

9. The method according to claim 7, wherein the cellulose derivative is sodium carboxymethylcellulose.

10. The method according to claim 1, wherein the pharmacologically inactive water-soluble polymer is a natural polysaccharide or polypeptide.

11. The method according to claim 10, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

12. The method according to claim 1, wherein the pharmacologically inactive water-soluble polymer is a synthetic polymer.

13. The method according to claim 12, wherein the synthetic polymer is a polyvinyl polymer or a copolymer of acrylic acid.

14. The method according to claim 13, wherein the polyvinyl polymer is polyvinyl alcohol, polyvinylpyrrolidone or polystyrene sulfonate.

15. The method according to claim 14, wherein the polyvinyl polymer is polyvinylpyrrolidone.

16. The method according to claim 1, wherein the active ingredient is a carbonic anhydrase inhibitor, a .beta.-adrenergic blocking agent, an ACE inhibitor, an antiviral, a tetracycline antibiotic, a macrolide antibiotic or a retinoid.

17. The method according to claim 16, wherein the active ingredient is acetazolamide, chlorzolamide, ethoxzolamide, methazolamide, timolol, atenolol, enalaprilic acid, enalaprilic acid ethyl ester, captopril, lisinopril, acyclovir, trifluridine, zidovudine, vidarabine, virazole, tetracycline, chlortetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline, minocycline, erythromycin, josamycin, rosamicin, tylosin, troleandomycin, spiramycin, Vitamin A, Vitamin A-acetate, retinal, retinoic acid, isotretinoin, etretinate, acitretin or .beta.-carotene.

18. The method according to claim 1, wherein the active ingredient is a steroid.

19. The method according to claim 18, wherein the steroid is an androgen, estrogen, progestin, diuretic, anabolic agent, anesthetic or glucocorticoid.

20. The method according to claim 19, wherein the steroid is hydrocortisone, dexamethasone, prednisolone, 17.beta.-estradiol, 17.alpha.-ethinylestradiol, ethinylestradiol 3-methyl ether, estriol, norethindrone, norethindrone acetate, norgestrel, ethisterone, methoxyprogesterone acetate, progesterone, 17-methyltestosterone, triamcinolone, testosterone, spironolactone or alfaxalone.

21. The method according to claim 1, wherein the active ingredient is carbamazepine, phenytoin, ketoconazole, itraconazole, metronidazole benzoate, flubendazole, co-trimoxazole, miconazole, carmustine, chlorambucil, doxorubicin, lomustine, melphalan, methotrexate, dicumarol, nitroglycerin, flunarizine, alprostadil, prostacyclin, digitoxin, digoxin, aspirin, apomorphine, famotidine, furosemide, flurbiprofen, ibuprofen, indomethacin, piroxicam, lidocaine, sulindac, pentobarbital, phenobarbital, secobarbital, chlordiazepoxide, diazepam, medazepam, oxazepam or lorazepam.

22. The method according to claim 1, wherein the active ingredient is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal

dihydropyridine form of a dihydropyridine .revreaction. pyridinium salt redox system for brain-targeted drug delivery.

23. The method according to claim 22, wherein the dihydropyridine form is a compound of the formula

[D-DHC]

wherein [D] is a centrally acting drug species and [DHC] is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal form of a dihydropyridine .revreaction. pyriclinium salt redox carrier.

24. The method according to claim 23, wherein the centrally acting drug species is dopamine, testosterone, phenytoin, GABA, valproic acid, tyrosine, methicillin, oxacillin, benzylpenicillin, cloxacillin, dicloxacillin, desipramine, acyclovir, trifluorothymidine, zidovudine, hydroxy-CCNU, chlorambucil, tryptamine, dexamethasone, hydrocortisone, ethinyl estradiol, norethindrone, estradiol, ethisterone, norgestrel, estrone, estradiol 3-methyl ether, estradiol benzoate, norethynodrel, mestranol, indomethacin, naproxen, FENU, HENU or 5-FU.

25. The method according to claim 1, wherein the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone and the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a tetracycline antibiotic, a macrolide antibiotic, an antiviral or a retinoid.

26. A method for solubilizing and/or stabilizing a lipophilic and/or water-labile active ingredient which is a drug, cosmetic additive, food additive or agrochemical, in an aqueous medium, said method comprising complexing said active ingredient in an aqueous medium comprising from about 0.1 to about 70% (weight/volume) of cyclodextrin and from about 0.001 to about 5% (weight/volume) of a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, the polymer and cyclodextrin being dissolved in the aqueous medium before the active ingredient is added, the aqueous medium which comprises the polymer and cyclodextrin being maintained at from about 30.degree. to about 150.degree. C. for a period of from about 0.1 to about 100 hours before, during and/or after the active ingredient is added.

27. The method according to claim 26, wherein the aqueous medium is maintained at from about 30.degree. to about 150.degree. C. for from about 0.1 to about 100 hours before the active ingredient is added.

28. The method according to claim 26, wherein the aqueous medium is maintained at from about 30.degree. to about 150.degree. C. for from about 0.1 to about 100 hours after the active ingredient is added.

29. The method according to claim 26, wherein the amount of water-soluble polymer is from about 0.01 to about 0.5% (weight/volume).

30. The method according to claim 26, wherein the cyclodextrin comprises at least one member selected from the group consisting of .alpha.-,.beta.- and .gamma.-cyclodextrin and the hydroxypropyl, hydroxyethyl, dihydroxypropyl, glucosyl and maltosyl derivatives of .alpha.- .beta.- and .gamma.-cyclodextrin having molar degree of substitution of from about 0.05 to about 10.

31. The method according to claim 26, wherein the pharmacologically inactive water-soluble polymer is a cellulose derivative.

32. The method according to claim 31, wherein the cellulose derivative is

methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl methylcellulose, hydroxypropyl ethylcellulose, hydroxyethyl ethylcellulose or sodium carboxymethylcellulose.

33. The method according to claim 32, wherein the cellulose derivative is hydroxypropyl methylcellulose.

34. The method according to claim 32, wherein the cellulose derivative is sodium carboxymethylcellulose.

35. The method according to claim 26, wherein the pharmacologically inactive water-soluble polymer is a natural polysaccharide or polypeptide.

36. The method according to claim 35, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

37. The method according to claim 26, wherein the pharmacologically inactive water-soluble polymer is a synthetic polymer.

38. The method according to claim 37, wherein the synthetic polymer is a polyvinyl polymer or a copolymer of acrylic acid.

39. The method according to claim 38, wherein the polyvinyl polymer is polyvinyl alcohol, polyvinylpyrrolidone or polystyrene sulfonate.

40. The method according to claim 39, wherein the polyvinyl polymer is polyvinylpyrrolidone.

41. The method according to claim 26, wherein the active ingredient is a carbonic anhydrase inhibitor, a .beta.-adrenergic blocking agent, an ACE inhibitor, an antiviral, a tetracycline antibiotic, a macrolide antibiotic or a retinoid.

42. The method according to claim 41, wherein the active ingredient is acetazolamide, chlorzolamide, ethoxzolamide, methazolamide, timolol, atenolol, enalaprilic acid, enalaprilic acid ethyl ester, captopril, lisinopril, acyclovir, trifluridine, zidovudine, vidarabine, virazole, tetracycline, chlortetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline, minocycline, erythromycin, josamycin, rosamicin, tylosin, troleandomycin, spiramycin, Vitamin A, Vitamin A-acetate, retinal, retinoic acid, isotretinoin, etretinate, acitretin or .beta.-carotene.

43. The method according to claim 26, wherein the active ingredient is a steroid.

44. The method according to claim 43, wherein the steroid is an androgen, estrogen, progestin, diuretic, anabolic agent, anesthetic or glucocorticoid.

45. The method according to claim 44, wherein the steroid is hydrocortisone, dexamethasone, prednisolone, 17.beta.-estradiol, 17.alpha.-ethinylestradiol, ethinylestradiol 3-methyl ether, estriol, norethindrone, norethindrone acetate, norgestrel, ethisterone, methoxyprogesterone acetate, progesterone, 17-methyltestosterone, triamcinolone, testosterone, spironolactone or alfaxalone.

46. The method according to claim 26, wherein the active ingredient is carbamazepine, phenytoin, ketoconazole, itraconazole, metronidazole benzoate, fiubendazole, co-trimoxazole, miconazole, carmustine, chlorambucil, doxorubicin, lomustine, melphalan, methotrexate, dicumarol, nitroglycerin, fiunarizine, alprostadil, prostacyclin, digitoxin, digoxin, aspirin, apomorphine, famotidine, furosemide, fiurbiprofen, ibuprofen, indomethacin, piroxicam, lidocaine, sulindac, pentobarbital, phenobarbital, secobarbital, chlordiazepoxide, diazepam, medazepam, oxazepam or lorazepam.

47. The method according to claim 26, wherein the active ingredient is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal dihydropyridine form of a dihydropyridine .revreaction. pyridinium salt redox system for brain-targeted drug delivery.

48. The method according to claim 47, wherein the dihydropyridine form is a compound of the formula

[D-DHC]

wherein [D] is a centrally acting drug species and [DHC] is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal form of a dihydropyridine .revreaction. pyridinium salt redox carrier.

49. The method according to claim 48, wherein the centrally acting drug species is dopamine, testosterone, phenytoin, GABA, valproic acid, tyrosine, methicillin, oxacillin, benzylpenicillin, cloxacillin, dicloxacillin, desipramine, acyclovir, trifluorothymidine, zidovudine, hydroxy-CCNU, chlorambucil, tryptamine, dexamethasone, hydrocortisone, ethinyl estradiol, norethindrone, estradiol, ethisterone, norgestrel, estrone, estradiol 3-methyl ether, estradiol benzoate, norethynodrel, mestranol, indomethacin, naproxen, FENU, HENU or 5-FU.

50. The method according to claim 26, wherein the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone and the active ingredient is a carbonic anhydrase inhibitor, an ACE inhibitor, a tetracycline antibiotic, a macrolide antibiotic, an antiviral or a retinoid.

51. A co-complex of a lipophilic and/or water-labile active ingredient which is a drug, cosmetic additive, food additive or agrochemical with a cyclodextrin and a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, the ratio by weight of cyclodextrin to polymer being from about 4:1 to about 50,000:1, the molecular ratio of active ingredient to cyclodextrin being from about 0.33 to about 3.0 molecules of active ingredient per molecule of cyclodextrin in the co-complex.

52. The co-complex according to claim 51, wherein the ratio by weight of cyclodextrin to polymer is from about 4:1 to about 10,000:1.

53. The co-complex according to claim 52, wherein the ratio by weight of cyclodextrin to polymer is from about 100:1 to about 1,000:1.

54. The co-complex according to claim 51, wherein the cyclodextrin comprises at least one member selected from the group consisting of .alpha.-, .beta.- and .gamma.-cyclodextrin and the hydroxypropyl, hydroxyethyl, dihydroxypropyl, glucosyl and maltosyl derivatives of .alpha.-, .beta.- and .gamma.-cyclodextrin having a molar degree of substitution of from about 0.05 to about 10.

55. The co-complex according to claim 51, wherein the pharmacologically inactive water-soluble polymer is a cellulose derivative.

56. The co-complex according to claim 55, wherein the cellulose derivative is methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl methylcellulose, hydroxypropyl ethylcellulose, hydroxyethyl ethylcellulose or sodium carboxymethylcellulose.

57. The co-complex according to claim 51, wherein the pharmacologically inactive water-soluble polymer is a natural polysaccharide or polypeptide.

58. The co-complex according to claim 57, wherein the polysaccharide is inulin,

pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

59. The co-complex according to claim 51, wherein the pharmacologically inactive water-soluble polymer is a synthetic polymer.

60. The co-complex according to claim 59, wherein the synthetic polymer is a polyvinyl polymer or a copolymer of acrylic acid.

61. The co-complex according to claim 60, wherein the polyvinyl polymer is polyvinyl alcohol, polyvinylpyrrolidone or polystyrene sulfonate.

62. The co-complex according to claim 51, wherein the pharmacologically inactive water-soluble polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone.

63. The co-complex according to claim 51, wherein the active ingredient is a carbonic anhydrase inhibitor, a .beta.-adrenergic blocking agent, an ACE inhibitor, an antiviral, a tetracycline antibiotic, a macrolide antibiotic or a retinoid.

64. The co-complex according to claim 51, wherein the active ingredient is a steroid.

65. The co-complex according to claim 64, wherein the steroid is an androgen, estrogen, progestin, diuretic, anabolic agent, anesthetic or glucocorticoid.

66. The co-complex according to claim 63, wherein the active ingredient is acetazolamide, chlorzolamide, ethoxzolamide, methazolamide, timolol, atenolol, enalaprilic acid, enalaprilic acid ethyl ester, captopril, lisinopril, acyclovir, trifluridine, zidovudine, vidarabine, virazole, tetracycline, chlortetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline, minocycline, erythromycin, josamycin, rosamicin, tylosin, troleandomycin, spiramycin, Vitamin A, Vitamin A-acetate, retinal, retinoic acid, isotretinoin, etretinate, acitretin or .beta.-carotene.

67. The co-complex according to claim 51, wherein the active ingredient is carbamazepine, phenytoin, ketoconazole, itraconazole, metronidazole benzoate, flubendazole, co-trimoxazole, miconazole, carmustine, chlorambucil, doxorubicin, lomustine, melphalan, methotrexate, dicumarol, nitroglycerin, flunarizine, alprostadil, prostacyclin, digitoxin, digoxin, aspirin, apomorphine, famotidine, furosemide, flurbiprofen, ibuprofen, indomethacin, piroxicam, lidocaine, sulindac, pentobarbital, phenobarbital, secobarbital, chlordiazepoxide, diazepam, medazepam, oxazepam or lorazepam.

68. The co-complex according to claim 65, wherein the steroid is hydrocortisone, dexamethasone, prednisolone, 17.beta.-estradiol, 17.alpha.-ethinylestradiol, ethinylestradiol 3-methyl ether, estriol, norethindrone, norethindrone acetate, norgestrel, ethisterone, methoxyprogesterone acetate, progesterone, 17-methyltestosterone, triamcinolone, testosterone, spironolactone or alfaxalone.

69. The co-complex according to claim 51, wherein the active ingredient is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal dihydropyridine form of a dihydropyridine .revreaction. pyridinium salt redox system for brain-targeted drag delivery.

70. The co-complex according to claim 69, wherein the dihydropyridine form is a compound of the formula

[D-DHC]

wherein [D] is a centrally acting drug species and [DHC] is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal form of a dihydropyridine .revreaction. pyridinium salt redox carrier.

71. The co-complex according to claim 70, wherein the centrally acting drug species is dopamine, testosterone, phenytoin, GABA, valproic acid, tyrosine, methicillin, oxacillin, benzylpenicillin, cloxacillin, dicloxacillin, desipramine, acyclovir, trifluorothymidine, zidovudine, hydroxy-CCNU, chlorambucil, tryptamine, dexamethasone, hydrocortisone, ethinyl estradiol, norethindrone, estradiol, ethisterone, norgestrel, estrone, estradiol 3-methyl ether, estradiol benzoate, norethynodrel, mestranol, indomethacin, naproxen, FENU, HENU or 5-FU.

72. The co-complex according to claim 51, wherein the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.- cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone and the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a tetracycline antibiotic, a macrolide antibiotic, an antiviral or a retinoid.

73. A composition comprising:

(a) a complex prepared by complexing a lipophilic and/or water-labile active ingredient which is a drug, cosmetic additive, food additive or agochemical in an aqueous medium comprising from about 0.1 to about 70% (weight/volume) of cyclodextrin and from about 0.001 to about 5% (weight/volume) of a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, the polymer and cyclodextrin being dissolved in the aqueous medium before the active ingredient is added, the aqueous medium which comprises the polymer and cyclodextrin being maintained at from about 30.degree. to about 150.degree. C. for a period of from about 0.1 to about 100 hours before, during and/or after the active ingredient is added, optionally followed by removal of water; and

(b) a non-toxic carrier therefor acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition.

74. The composition according to claim 73, wherein the cyclodextrin comprises at least one member selected from the group consisting of .alpha.-, .beta.- and .gamma.-cyclodextrin and the hydroxypropyl, hydroxyethyl, dihydroxypropyl, glucosyl and maltosyl derivatives of .alpha.-, .beta.- and .gamma.-cyclodextrin having a molar degree of substitution of from about 0.05 to about 10.

75. The composition according to claim 73, wherein the pharmacologically inactive water-soluble polymer is a cellulose derivative.

76. The composition according to claim 75, wherein the cellulose derivative is methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl methylcellulose, hydroxypropyl ethylcellulose, hydroxyethyl ethylcellulose or sodium carboxymethylcellulose.

77. The composition according to claim 73, wherein the pharmacologically inactive water-soluble polymer is a natural polysaccharide or polypeptide.

78. The composition according to claim 77, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

79. The composition method according to claim 73, wherein the pharmacologically inactive water-soluble polymer is a synthetic polymer.

80. The composition according to claim 79, wherein the synthetic polymer is a polyvinyl polymer or a copolymer of acrylic acid.

81. The composition according to claim 80, wherein the polyvinyl polymer is

polyvinyl alcohol, polyvinylpyrrolidone or polystyrene sulfonate.

82. The composition according to claim 73, wherein the pharmacologically inactive water-soluble polymer is hydroxypropyl methylcelluclose, sodium carboxymethylcellulose or polyvinylpyrrolidone.

83. The composition according to claim 73, wherein the amount of water-soluble polymer is from about 0.01 to about 0.5% (weight/volume).

84. The composition according to claim 73, wherein the active ingredient is a carbonic anhydrase inhibitor, a .beta.-adrenergic blocking agent, an ACE inhibitor, an antiviral, a tetracycline antibiotic, a macrolide antibiotic or a retinoid.

85. The composition according to claim 73, wherein the active ingredient is a steroid.

86. The composition according to claim 85, wherein the steroid is an androgen, estrogen, progestin, diuretic, anabolic agent, anesthetic or glucocorticoid.

87. The composition according to claim 73, wherein the active ingredient is acetazolamide, chlorzolamide, ethoxzolamide, methazolamide, timolol, atenolol, enalaprilic acid, enalaprilic acid ethyl ester, captopril, lisinopril, acyclovir, trifluridine, zidovudine, vidarabine, virazole, tetracycline, chlortetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline, minocycline, erythromycin, josamycin, rosamicin, tylosin, troleandomycin, spiramycin, Vitamin A, Vitamin A-acetate, retinal, retinoic acid, isotretinoin, etretinate, acitretin or .beta.-carotene.

88. The composition according to claim 73, wherein the active ingredient is carbamazepine, phenytoin, ketoconazole, itraconazole, metronidazole benzoate, flubendazole, co-trimoxazole, miconazole, carmustine, chlorambucil, doxorubicin, lomustine, melphalan, methotrexate, dicumarol, nitroglycerin, flunarizine, alprostadil, prostacyclin, digitoxin, digoxin, aspirin, apomorphine, famotidine, furosemide, flurbiprofen, ibuprofen, indomethacin, piroxicam, lidocaine, sulindac, pentobarbital, phenobarbital, secobarbital, chlordiazepoxide, diazepam, medazepam, oxazepam or lorazepam.

89. The composition according to claim 86, wherein the steroid is hydrocortisone, dexamethasone, prednisolone, 17.beta.-estradiol, 17.alpha.-ethinylestradiol, ethinylestradiol 3-methyl ether, estriol, norethindrone, norethindrone acetate, norgestrel, ethisterone, methoxyprogesterone acetate, progesterone, 17-methyltestosterone, triamcinolone, testosterone, spironolactone or alfaxalone.

90. The composition according to claim 73, wherein the active ingredient is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal dihydropyridine form of a dihydropyridine .revreaction. pyridinium salt redox system for brain-targeted drug delivery.

91. The composition according to claim 90, wherein the dihydropyridine form is a compound of the formula

[D-DHC]

wherein [D] is a centrally acting drug species and [DHC] is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal form of a dihydropyridine .revreaction. pyridinium salt redox carrier.

92. The composition according to claim 91, wherein the centrally acting drug species is dopamine, testosterone, phenytoin, GABA, valproic acid, tyrosine, methicillin, oxacillin, benzylpenicillin, cloxacillin, dicloxacillin, desipramine, acyclovir, trifluorothymidine, zidovudine, hydroxy-CCNU, chlorambucil, tryptatnine, dexamethasone, hydrocortisone, ethinyl estradiol, norethindrone, estradiol, ethisterone, norgestrel, estrone, estradiol 3-methyl

ether, estradiol benzoate, norethynodrel, mestranol, indomethacin, naproxen, FENU, HENU or 5-FU.

93. The composition according to claim 73, wherein the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone and the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a tetracycline antibiotic, a macrolide antibiotic, an antiviral or a retinoid.

94. The composition according to claim 73, wherein all ingredients are ophthalmically acceptable, and wherein the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a .beta.-blocker, an antiviral or an antibiotic, the polymer is hydroxypropyl methylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

95. The composition according to claim 73, wherein all ingredients are acceptable for use in a mouthwash, and wherein the active ingredient is a steroid, an antifungal, an antiviral or an antiseptic, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

96. A composition comprising:

(a) a co-complex of a lipophilic and/or water-labile active ingredient which is a drug, cosmetic additive, food additive or agrochemical with a cyclodextrin and a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, the ratio by weight of cyclodextrin to polymer being from about 4:1 to about 50,000:1, the molecular ratio of active ingredient to cyclodextrin being from about 0.33 to about 3.0 molecules of active ingredient per molecule of cyclodextrin in the co-complex; and

(b) a non-toxic carrier therefor acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition.

97. The composition according to claim 96, wherein the ratio by weight of cyclodextrin to polymer is from about 4:1 to about 10,000:1.

98. The composition according to claim 97, wherein the ratio by weight of cyclodextrin to polymer is from about 100:1 to about 1,000:1.

99. The composition according to claim 96, wherein the cyclodextrin comprises at least one member selected from the group consisting of .alpha.-, .beta.- and .gamma.-cyclodextrin and the hydroxypropyl, hydroxyethyl, dihydroxypropyl, glucosyl and maltosyl derivatives of .alpha.-, .beta.- and .gamma.-cyclodextrin having a molar degree of substitution of from about 0.05 to about 10.

100. The composition according to claim 96, wherein the pharmacologically inactive water-soluble polymer is a cellulose derivative.

101. The composition according to claim 100, wherein the cellulose derivative is

methylcellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxyethyl methylcellulose, hydroxypropyl ethylcellulose, hydroxyethyl ethylcellulose or sodium carboxymethylcellulose.

102. The composition according to claim 96, wherein the pharmacologically inactive water-soluble polymer is a natural polysaccharide or polypeptide.

103. The composition according to claim 102, wherein the polysaccharide is inulin, pectin, sodium alginate or agar, or wherein the polypeptide is casein or gelatin.

104. The composition according to claim 96, wherein the pharmacologically inactive water-soluble polymer is a synthetic polymer.

105. The composition according to claim 104, wherein the synthetic polymer is a polyvinyl polymer or a copolymer of acrylic acid.

106. The composition according to claim 105, wherein the polyvinyl polymer is polyvinyl alcohol, polyvinylpyrrolidone or polystyrene sulfonate.

107. The composition according to claim 96, wherein the pharmacologically inactive water-soluble polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone.

108. The composition according to claim 96, wherein the active ingredient is a carbonic anhydrase inhibitor, a .beta.-adrenergic blocking agent, an ACE inhibitor, an antiviral, a tetracycline antibiotic, a macrolide antibiotic or a retinoid.

109. The composition according to claim 96, wherein the active ingredient is a steroid.

110. The composition according to claim 109, wherein the steroid is an androgen, estrogen, progestin, diuretic, anabolic agent, anesthetic or glucocorticoid.

111. The composition according to claim 96, wherein the active ingredient is acetazolamide, chlorzolamide, ethoxzolamide, methazolamide, timolol, atenolol, enalaprilic acid, enalaprilic acid ethyl ester, captopril, lisinopril, acyclovir, trifluridine, zidovudine, vidarabine, virazole, tetracycline, chlonetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline, minocycline, erythromycin, josamycin, rosamicin, tylosin, troleandomycin, spiramycin, Vitamin A, Vitamin A-acetate, retinal, retinoic acid, isotretinoin, etretinate, acitretin or .beta.-carotene.

112. The composition according to claim 96, wherein the active ingredient is carbatnazepine, phenytoin, ketoconazole, itraconazole, metronidazole benzoate, flubendazole, co-trimoxazole, miconazole, carmustine, chlorambucil, doxorubicin, lomustine, melphalan, methotrexate, dicumarol, nitroglycerin, flunarizine, alprostadil, prostacyclin, digitoxin, digoxin, aspirin, apomorphine, famotidine, furosemide, flurbiprofen, ibuprofen, indomethacin, piroxicam, lidocaine, sulindac, pentobarbital, phenobarbital, secobarbital, chlordiazepoxide, diazepam, medazepam, oxazepam or lorazepam.

113. The composition according to claim 110, wherein the steroid is hydrocortisone, dexamethasone, prednisolone, 17.beta.-estradiol, 17.alpha.-ethinylestradiol, ethinylestradiol 3-methyl ether, estriol, norethindrone, norethindrone acetate, norgestrel, ethisterone, methoxyprogesterone acetate, progesterone, 17-methyltestosterone, triamcinolone, testosterone, spironolactone or alfaxalone.

114. The composition according to claim 96, wherein the active ingredient is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal dihydropyridine form of a dihydropyridine .revreaction. pyridinium salt redox system for brain-targeted drug delivery.

115. The composition according to claim 114, wherein the dihydropyridine form is a compound of the formula

[D-DHC]

wherein [D] is a centrally acting drug species and [DHC] is the reduced, biooxidizable, blood-brain barrier penetrating, lipoidal form of a dihydropyridine .revreaction. pyridinium salt redox carrier.

116. The composition according to claim 115, wherein the centrally acting drug species is dopamine, testosterone, phenytoin, GABA, valproic acid, tyrosine, methicillin, oxacillin, benzylpenicillin, cloxacillin, dicloxacillin, desipramine, acyclovir, trifluorothymidine, zidovudine, hydroxy-CCNU, chlorambucil, tryptamine, dexamethasone, hydrocortisone, ethinyl estradiol, norethindrone, estradiol, ethisterone, norgestrel, estrone, estradiol 3-methyl ether, estradiol benzoate, norethynodrel, mestranol, indomethacin, naproxen, FENU, HENU or 5-FU.

117. The composition according to claim 96, wherein the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone and the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a tetracycline antibiotic, a macrolide antibiotic, an antiviral or a retinoid.

118. The composition according to claim 96, wherein all ingredients are ophthalmically acceptable, and wherein the active ingredient is a carbonic anhydrase inhibitor, a steroid, an ACE inhibitor, a .beta.-blocker, an antiviral or an antibiotic, the polymer is hydroxypropyl methylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

119. The composition according to claim 96, wherein all ingredients are acceptable for use in a mouthwash, and wherein the active ingredient is a steroid, an antifungal, an antiviral or an antiseptic, the polymer is hydroxypropyl methylcellulose, sodium carboxymethylcellulose or polyvinylpyrrolidone, and the cyclodextrin comprises at least one member selected from the group consisting of .gamma.-cyclodextrin, .beta.-cyclodextrin, .alpha.-cyclodextrin, hydroxypropyl-.beta.-cyclodextrin, hydroxypropyl-.gamma.-cyclodextrin, glucosyl-.beta.-cyclodextrin, glucosyl-.gamma.-cyclodextrin, maltosyl-.beta.-cyclodextrin and maltosyl-.gamma.-cyclodextrin.

WEST

End of Result Set

Generate Collection | Print

L13: Entry 5 of 5 File: USPT Dec 5, 1995

US-PAT-NO: 5472954
DOCUMENT-IDENTIFIER: US 5472954 A
**** See image for Certificate of Correction ****

TITLE: Cyclodextrin complexation

DATE-ISSUED: December 5, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loftsson; Thorsteinn	Reykjavik			IS

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Cyclops h.f.	Reykjavik			IS	03

DISCLAIMER DATE: 20110628

APPL-NO: 08/ 240510 [PALM]
DATE FILED: May 11, 1994

PARENT-CASE:
CROSS-REFERENCE TO RELATED APPLICATION This is a continuation-in-part of applicant's U.S. patent application Ser. No. 07/912,853, filed Jul. 14, 1992, now U.S. Pat. No. 5,324,718, incorporated by reference herein in its entirety and relied upon.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
EP	93305280	July 6, 1993

INT-CL: [06] A61 K 47/48, A61 K 31/735, C08 B 37/16

US-CL-ISSUED: 514/58; 514/772.2, 514/772.3, 514/772.6, 514/773, 514/777, 514/779, 514/781, 536/103
US-CL-CURRENT: 514/58; 514/772.2, 514/772.3, 514/772.6, 514/773, 514/777, 514/779, 514/781, 536/103

FIELD-OF-SEARCH: 514/58, 514/772.2, 514/772.3, 514/772.6, 514/773, 514/777, 514/779, 514/781, 536/103

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3459731	August 1969	Gramera et al.	260/209
☐	4426292	January 1984	Wernick et al.	210/635
☐	4596795	June 1986	Pitha	514/58
☐	4727064	February 1988	Pitha	514/58
☐	4834985	May 1989	Elger et al.	424/488
☐	4883785	November 1989	Chow et al.	514/58
☐	4983586	January 1991	Bodor	514/58
☐	5002935	March 1991	Bodor	514/58
☐	5017566	May 1991	Bodor	514/58
☐	5024998	June 1991	Bodor	514/58
☐	5070081	December 1991	Majid et al.	536/103
☐	5120546	June 1992	Hansen et al.	424/448
☐	5321014	June 1994	Janz et al.	514/58
☐	5324718	June 1994	Loftsson	514/58

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0213514	March 1987	EP	
0327766	August 1989	EP	
0149197	March 1990	EP	
0472327	February 1992	EP	
0437478	April 1993	EP	
0579435	January 1994	EP	
466134	January 1992	SE	
91/04026	April 1991	WO	
92/03141	March 1992	WO	
92/09307	June 1992	WO	

OTHER PUBLICATIONS

Villiers, C. R. Acad. Sci., 112, 536-538(1891).
Schardinger, Z Unters. Nahr. Genussm., 6, 865-880(1903).
Szejtli, Pharm. Techn. Int., 3(2), 15-22(1991).
Szejtli, Pharm. Techn. Int., 16-24(1991).
Loftsson et al, Pharm. Ztg. Wiss., 4/136:5-10(1991).
Hirayama et al, in Cyclodextrins and their industrial uses, ed. D. Duchene, Editions de Sante, Paris, 1987, pp. 133-172.
Hassan et al, Int. J. Pharm. 58, 19-24(1990).
Nakai et al, Chem. Pharm. Bull, 35(11), 4609-4615(1987).
Nakai et al, Chem. Pharm. Bull, 37(4), 1055-1058(1989).
Nakai et al, Chem. Pharm. Bull, 38(3), 728-732(1990).
Nakai et al, Chem. Pharm. Bull., 38(5), 1345-1348(1990).
Nakai et al, Chem. Pharm. Bull., 39(6), 1532-1535(1991).
Schmidt et al, Starch/Starke, 39(6), 203-207 (1987).
Loftsson et al, Acta. Pharm. Nord, 1(4), 185-193(1989).
Remington's Pharmaceutical Sciences, 18th edition, Alfonso R. Gennaro (ed.), Mack Publishing Co., Easton, Pa., 1990, pp. 291-294.
Martin et al, Physical Pharmacy, 3rd edition, Lea & Febinger, Philadelphia, Pa. 1983, pp. 592-638.
Florence et al, Physiochemical Principles of Pharmacy, 2nd edition, MacMillan Press, London, 1988, pp. 281-334.
Leung et al, in Controlled Drug Delivery, 2nd edition, Robinson and Lee, editors, Marcel Dekker, Inc., New York, 1987, pp. 433-480.

Uekama et al, Journal of Inclusion Phenomena, 1, 309-312(1984).
Pagington, J. S., ".beta.-cyclodextrin: the success of molecular inclusion," in Chemistry in Britain, May 1987, 455-458.
Loftsson et al, Eur. J. Pharm. Biopharm., vol. 37, No. 1, Mar. 1991, 30-33.
STN FILE SUPPLIER & FILE MEDLINE AN=92324215 (Orienti et al).
Chemical Abstracts, vol. 107, No. 16, 1987, abstract No. 140916f.
DATABASE WPI, Week 9037, Derwent Pulication Ltd., London, GB, AN 90-279330.
THE MERCK INDEX, eleventh edition, ed. Susan Budavari et al, Merck & Co., Inc. Rahway, N.J., 1989, pp. 959, 1248 and 1467.
COSMETIC AND DRUG PRESERVATION: PRINCIPLES AND PRACTICE, ed. Jon J. Kabara, Marcel Dekker, Inc., New York, N.Y., 1984, pp. 71-72.
THE UNITED STATES PHARMACOPEIA, USP XXII, twenty-second revision, Jan. 1, 1990, U.S. Pharmacopeial Convention, Inc. Rockville, Md., p. 8.
Loftsson et al, European Journal of Pharmaceutical Sciences, 1(1994), 175-180.
Loftsson et al, International Journal of Pharmaceutics, 104(1994), 181-184.
Loftsson et al, "Topical acetazolamide-HP.beta.CD eye drop solution," in Final Program and Abstracts for the 7th International Cyclodextrins Symposium, Tokyo, Japan, Apr. 25-28, 1994, p. 112, abstract P-B-25.
Loftsson et al, "Dexamethasone 2-hydroxypropyl-.beta.-cyclodextrin eye drops," In Final Program and Abstracts for the 7th International Cyclodextrins Symposium, Tokyo, Japan, Apr. 25-28, 1994, p. 113, abstract P-B-26.
Loftsson et al, "The Effect of Polymers on Cyclodextrin Complexation," in Final Program and Abstracts for the 7th International Cyclodextrins Symposium, Tokyo, Japan, Apr. 25-28, 1994, p. 114, abstract P-B-27.
Stefansson et al, "Dexamethasone 2-Hydroxypropyl-.beta.-cyclodextrin (HP.beta.CD) Eye Drops," in Investigative Ophthalmology & Visual Science, Annual Meeting Abstract Issue, Mar. 15, 1994, vol. 35, No. 4, p. 2217, abstract 4459-11.
Thorisdottir et al, "Topical Acetazolamide in 2-Hydroxypropyl-.beta.-Cyclodextrin (HP.beta.CD) Eye Drops Lowers Intraocular Pressure in Humans," in Investigative Ophthalmology & Visual Science, Annual Meeting Abstract Issue, Mar. 15, 1994, vol. 35, No. 4, p. 2220, abstract 4479-4531.
Florence et al, Physiochemical Principles of Pharmacy, 2nd ed., Macmillan Press, London 1988, pp. 24, 297-298.
Higuchi, J. Soc. Cosm. Chem., 11, 85-97(1960).
Loftsson, Arch. Pharm. Chem., Sci. Ed., 10, 17-24(1981).
Chien, Novel Drug Delivery Systems, 2nd Ed., Marcel Dekker, New York 1992, pp. 171-173.
Peppas et al, "Surface, interfacial and molecular aspects of polymer bioadhesion on soft tissues," in J. M. Anderson and S. W. Kim (editors), Advances in Drug Delivery Systems, Elsevier, Amsterdam 1986, pp. 257-275.
Attwood et al: Surfactant Systems. Their Chemistry, Pharmacy and Biology, Chapman and Hall, London, 1983, pp. 361-365.
Myers, Surfactant Science and Technology, VCH Publishers, New York, 1988, pp. 142-145.

ART-UNIT: 185

PRIMARY-EXAMINER: Griffin; Ronald W.

ATTY-AGENT-FIRM: Burns, Doane, Swecker & Mathis

ABSTRACT:

The invention provides a method for enhancing the complexation of a cyclodextrin with a lipophilic and/or water-labile active ingredient which is a drug, cosmetic additive, food additive or agrochemical, comprising combining from about 0.1 to about 70% (weight/volume) of a cyclodextrin, from about 0.001 to about 5% (weight/volume) of a pharmacologically inactive water-soluble polymer acceptable for use in a pharmaceutical, cosmetic, food or agricultural composition, and said lipophilic and/or water-labile active ingredient in an aqueous medium, the polymer and cyclodextrin being dissolved in the aqueous medium before the active ingredient is added, the aqueous medium which comprises the polymer and cyclodextrin being maintained at from about 30.degree. to 150.degree. C. for a period of from about 0.1 to about 100 hours before, during and/or after the active ingredient is added, optionally followed by removal of water. Related methods, co-complexes of active

ingredient/cyclodextrin/polymer, pharmaceutical, cosmetic, food and agricultural compositions and cyclodextrin/polymer complexing agents are also provided.

119 Claims, 5 Drawing figures

WEST

Generate Collection | Print

L8: Entry 73 of 83 File: USPT Jan 19, 1982

US-PAT-NO: 4311722
DOCUMENT-IDENTIFIER: US 4311722 A

TITLE: High fructose hard candy

DATE-ISSUED: January 19, 1982

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vink; Walter	Purdys Station	NY		
Deptula; Richard W.	Port Chester	NY		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Life Savers, Inc.	New York	NY			02

APPL-NO: 06/ 167500 [PALM]
DATE FILED: July 11, 1980

INT-CL: [03] A23G 3/00

US-CL-ISSUED: 426/660; 426/658, 426/804
US-CL-CURRENT: 426/660; 426/658, 426/804

FIELD-OF-SEARCH: 426/660, 426/658, 426/804

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3114642	December 1963	Meisel	426/660
☐	3271256	September 1966	Frey	426/660
☐	3556811	January 1971	Smith	426/660
☐	3826857	July 1974	Horn	426/660
☐	4153732	May 1979	Muhler et al.	426/660
☐	4241092	December 1980	Halik et al.	426/660
☐	4250202	February 1981	Hartnett	426/658

ART-UNIT: 172

PRIMARY-EXAMINER: Hunter; Jeanette M.

ATTY-AGENT-FIRM: Levinson; Lawrence S. Rodney; Burton

ABSTRACT:

A hard candy having excellent shelf stability may contain at least 80% by weight fructose, such as in the form of high fructose corn syrup, and optionally, small amounts of dextrin. A method for preparing the above high fructose hard candy is also provided which employs vacuum removal of moisture to avoid degradation and discoloration and impart long shelf-life stability to the hard candy.

9 Claims, 0 Drawing figures

L8: Entry 73 of 83 File: USPT Jan 19, 1982

DOCUMENT-IDENTIFIER: US 4311722 A
TITLE: High fructose hard candy

Brief Summary Text (7):
In accordance with the present invention, a hard candy which contains upwards of 50% or more fructose is provided which has excellent color and shelf-life. In addition to the fructose, which may be used in the form of crystalline fructose or high fructose corn syrup, the hard candy of the invention may optionally contain a small amount of dextrin (derived from starch), as well as inulin (a natural starch-like material composed of fructose molecules) or cellulose gums which have been found to further inhibit degradation of the fructose-containing hard candy glass during manufacture.

Brief Summary Text (9):
As to the adjunct or optional stabilizers present together with the fructose, the hardy candy of the invention may contain from about 0 to about 20% and preferably from about 1 to about 15% by weight dextrin having a dextrose equivalent of from about 5 to about 20, and preferably from about 5 to about 10. In lieu of or together with dextrin, the hard candy of the invention may contain from about 0 to about 20%, and preferably from about 1 to about 10% by weight inulin and/or from about 0 to about 20% and preferably from about 1 to about 10% by weight cellulose gums.

Brief Summary Text (13):
Where employed, the synthetic sweeteners may be present in the candy in an amount within the range of from about 0.04 to about 2% and preferably from about 0.4 to about 0.8% by weight of the candy. Examples of synthetic sweeteners suitable for use herein include free saccharin acid, sodium, calcium or ammonium saccharin, cyclamate salts, dihydrochalcones, glycyrrhizic acid and salts, L-aspartyl-L-phenylalanine methyl ester and mixtures thereof.

Brief Summary Text (23):
Furthermore, in accordance with the present invention, a method is provided for preparing the high fructose hard candy of the invention which includes the steps of admixing fructose (with sufficient water, if the fructose is crystalline, to form a solution) or high fructose corn syrup, with dextrin (where present) or optionally inulin or a cellulose gum, while heating to a temperature of within the range of from about 250.degree. to about 310.degree. F., and preferably from about 265.degree. to about 300.degree. F., and thereafter applying a vacuum of from about 5 to about 30 inches Hg. The resulting fluid is cooled to a plastic state. Thereafter colorings and flavorings are added to form the final product which is extremely dry and unexpectedly non-sticky and shelf-stable.

Brief Summary Text (24):
It will be appreciated that the hard candy of the invention may be produced from 100% crystalline fructose or 100% high fructose corn syrup or varying levels of fructose, dextrin, inulin, cellulose gums and the like as described above. Thus, the crystalline fructose or high fructose corn syrup may be employed to provide a weight ratio of fructose:dextrin (or inulin or cellulose gum) of within the range of from about 25:1 to about 99:1, and preferably from about 40:1 to about 98:1.

CLAIMS:

1. A substantially gas-free high fructose hard candy consisting essentially of from

about 80 to about 98% fructose which candy is dry and shelf-stable, and further including from about 1 to about 20% by weight dextrin, inulin, a cellulose gum or mixtures thereof.

5. A method for preparing the hard candy as defined in claim 1 which comprises forming an aqueous solution of fructose and dextrin, inulin or cellulose gum, heating the solution to from about 260.degree. to about 300.degree. F., applying a vacuum of from about 5 to about 30 inches Hg, to remove moisture, and cooling to form the hard candy.

WEST

Generate Collection Print

L8: Entry 60 of 83 File: USPT Oct 18, 1994

US-PAT-NO: 5356880
DOCUMENT-IDENTIFIER: US 5356880 A

TITLE: Glycyrrhetinic acid derivatives

DATE-ISSUED: October 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kurono; Masayasu	Nagoya			JP
Ishiwata; Yoshiro	Nagoya			JP
Yokochi; Syoji	Nagoya			JP
Asano; Kyoichi	Nagoya			JP
Mitani; Takahiko	Nagoya			JP
Kakigami; Takuji	Nagoya			JP
Iwata; Noriyuki	Nagoya			JP
Isogawa; Kougaku	Nagoya			JP
Baba; Yutaka	Nagoya			JP
Ohwaki; Hiroyuki	Nagoya			JP
Sawai; Kiichi	Nagoya			JP
Kimura; Hiromoto	Nagoya			JP
Fukushima; Masato	Nagoya			JP
Unno; Ryoichi	Nagoya			JP
Ohtuka; Tamaki	Nagoya			JP

US-CL-CURRENT: 514/26; 536/5

CLAIMS:

What is claimed is:

1. A glycyrrhetinic acid compound of the formula ##STR7## wherein: X and Y are a hydrogen atom or taken together form an oxo group;

Z is a monosaccharide or disaccharide; and

W is OR.sub.1, NHR.sub.1 or R.sub.1, where R.sub.1 is a group of the formula ##STR8## where a is 2; and R.sub.4, R.sub.5 and R.sub.6 are each hydrogen, a halogen or an amino, alkylamino, acylamino, hydroxy, alkyloxy, carboxy, formyl, alkylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, carbamoyl, nitro, cyano, thiol, alkylthio, or a phenyl group;

or a pharmaceutically acceptable salt thereof.

2. 3.beta.-(.beta.-D-glucopyranosyloxy)-N-(2-(4-(2-methoxyphenyl)piperazine-1-yl)ethyl)-18.beta.-olean-12-en-30-amide or a pharmaceutically acceptable salt thereof.

3. 3.beta.-(.beta.-D-glucopyranosyloxy)-N-(2-(4-(2-methoxyphenyl)piperazine-1-yl)ethyl)-11-oxo-18.beta.-olean-12-en-30-amide or a pharmaceutically acceptable salt thereof.

WEST

Generate Collection | Print

L8: Entry 60 of 83 File: USPT Oct 18, 1994

DOCUMENT-IDENTIFIER: US 5356880 A
TITLE: Glycyrrhetinic acid derivatives

Brief Summary Text (5):
Glycyrrhetinic acid and certain of its derivatives are known to have anti-ulcer, anti-inflammatory, antiallergic, anti-hepatitis and antiviral activity. Among such compounds known so far in the art, for instance, there are carbenoxolone (U.S. Pat. No. 3,070,623), glycyrrhetinic acid ester derivatives having substituents at the 30-position (U.S. Pat. No. 3,070,624), amino acid salts of glycyrrhetinic acid (Japanese Patent Publication No. 44-32798), amide derivatives of glycyrrhetinic acid (Belgian Patent No. 753773), amide derivatives of 11-deoxoglycyrrhetinic acid (British Patent No. 1346871), cicloxolone ("Journal of Antimicrobial Chemotherapy", Vol 18, Suppl. B, pp. 185-200 (1986)), and glycyrrhizic acid and its derivatives ("Chem. Pharm. Bull.", 39(1), pp. 112-115 (1991)). Apart from these, we have also come up with a novel method of synthesizing 11-deoxoglycyrrhetinic acid (Japanese Patent Laid-Open Publication No. 59-70638) as well as its hemi-ester derivatives (Japanese Patent Laid-Open Publication No. 58-8044) and its carboxylic acid and amide derivatives (Japanese Patent Laid-Open Publication No. 63-135351).

Detailed Description Text (9):
The saccharide donors used in this invention, for example, include glycosyl bromides of mono-, di-, oligo- and poly-saccharides or their derivatives. The glycosyl bromides of the monosaccharides, for instance, include those of glucose, fructose, mannose and ribose, of deoxymonosaccharides such as deoxyribose, of aminosaccharides such as glucosamine and mannosamine or of syalic or gluculonic acid. The glucosyl bromides of the disaccharides, for instance, include those of cane sugar, glucuronylglucuronic acid and syalylglucose. The glycosyl bromides of cyclodextrin, oligosaccharides and polysaccharides may be used as well.

4. 3.beta.-(.beta.-D-glucopyranosyloxy)-N-(2-(4-(2-c
hlorophenyl)piperazine-1-yl)ethyl)-18.beta.-olean-12-en-30-amide or a pharmaceutically acceptable salt thereof.

5. 3.beta.-(.beta.-D-glucopyranosyloxy)-N-
(2-(4-(2-chlorophenyl)piperazine-1-yl)ethyl)-11-oxo-18.beta.-olean-12-en-30
-amide or a pharmaceutically acceptable salt thereof.

6. An composition containing a glycyrrhetinic acid derivative or a pharmaceutically acceptable salt thereof as claimed in claim 1 together with a pharmaceutically acceptable carrier.

7. An composition as claimed in claim 6 which further contains a polyoxyethylene higher alcohol ether.

L8: Entry 60 of 83 File: USPT Oct 18, 1994

US-PAT-NO: 5356880
DOCUMENT-IDENTIFIER: US 5356880 A

TITLE: Glycyrrhetinic acid derivatives

DATE-ISSUED: October 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kurono; Masayasu	Nagoya			JP
Ishiwata; Yoshiro	Nagoya			JP
Yokochi; Syoji	Nagoya			JP
Asano; Kyoichi	Nagoya			JP
Mitani; Takahiko	Nagoya			JP
Kakigami; Takuji	Nagoya			JP
Iwata; Noriyuki	Nagoya			JP
Isogawa; Kougaku	Nagoya			JP
Baba; Yutaka	Nagoya			JP
Ohwaki; Hiroyuki	Nagoya			JP
Sawai; Kiichi	Nagoya			JP
Kimura; Hiromoto	Nagoya			JP
Fukushima; Masato	Nagoya			JP
Unno; Ryoichi	Nagoya			JP
Ohtuka; Tamaki	Nagoya			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Sanwa Kagaku Kenkyusho Co., Ltd.	Nagoya			JP	03

APPL-NO: 07/ 889709 [PALM]
DATE FILED: May 28, 1992

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	3-127271	May 30, 1991
JP	4-053929	March 12, 1992

INT-CL: [05] A61K 31/58, C07J 43/00

US-CL-ISSUED: 514/26; 536/5
US-CL-CURRENT: 514/26; 536/5

FIELD-OF-SEARCH: 514/23, 514/25, 514/26, 514/53, 514/54, 514/61, 514/176, 514/179, 514/247, 514/319, 514/638, 514/656, 536/4.1, 536/5, 536/17.2, 536/17.3, 536/17.4, 536/17.9, 536/115, 536/18.4, 540/15, 540/47, 540/107

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4879376	November 1989	Foresta et al.	536/5
☐	4918171	April 1990	Oshio et al.	536/5
☐	5019495	May 1991	Shanbrom	435/1
☐	5128149	July 1992	Shanbrom	424/529
☐	5128150	July 1992	Shanbrom	424/533
☐	5147859	September 1992	Bombardelli et al.	536/5

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1396317	July 1990	EP	536/5
1271081	September 1977	DE	
63-243093	January 1989	JP	
63-135351	October 1989	JP	
1567307	May 1980	GB	
2122893	January 1984	GB	

OTHER PUBLICATIONS

Chemical Abstracts; vol. 113; Jul. 9, 1990; No. 2, Abstract No. 12139s.
Patent Abstract of Japan; 63-243093(A); vol. 13; No. 42 (C0565)(3390) Jan. 30, 1989. Isowa JP63-243093.
Patent Abstract of Japan; vol. 12; No. 387(C-536)(3234) Oct. 14, 1988. Kurono JP63-135351.
Hirabayashi et al.; Chemical and Pharmaceutical Bulletin, vol. 39(1), pp. 112-115, (1991).
Vanstone et al.; Chemical Abstracts 103:71555r (1985).
Dargan et al.; J. Gen. Virol. 67:1831-1850 (1986).
Vanstone et al.; Chemical Abstracts 106:18882f (1987).
Ito et al.; Antiviral Research 10:289-298 (Dec. 11, 1988).
Crance et al.; Journal of Medical Virology 31:155-160 (Jun. 1990).
Dargan et al.; Journal of General Virology 73:407-411 (Feb. 1992).
Garcia-Villalon et al.; Chemical Abstracts 117:316s (Jul. 6, 1992).
Sakai et al.; Chemical and Pharmaceutical Bulletin 38(3):824-826 (1990).

ART-UNIT: 183

PRIMARY-EXAMINER: Brown; Johnnie R.

ASSISTANT-EXAMINER: Lee; Howard C.

ATTY-AGENT-FIRM: Armstrong, Westerman, Hattori, McLeland & Naughton

ABSTRACT:

The invention provides a novel glycoside which contains as the aglycon a 4-(substituted phenyl)piperazine-1-yl derivative of glycyrrhetinic acid and 11-deoxo-glycyrrhetinic acid or their derivative as well as a composition for the treatment of virus infection, which contains these compounds as a main active component.

7 Claims, 0 Drawing figures

WEST

Generate Collection | Print

L8: Entry 40 of 83 File: USPT Dec 1, 1998

US-PAT-NO: 5843408
DOCUMENT-IDENTIFIER: US 5843408 A

TITLE: Semi-paste oral preparations

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattori; Masayuki	Kanagawa			JP
Fukushima; Akiko	Kanagawa			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Euro-Celtique, S.A.	Luxembourg			LU	03

APPL-NO: 08/ 761145 [PALM]
DATE FILED: December 6, 1996

PARENT-CASE:
This application is a continuation, of application Ser. No. 08/360,470 filed Dec. 21, 1994, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-323653	December 22, 1993

INT-CL: [06] A61 K 7/16

US-CL-ISSUED: 424/49; 424/51
US-CL-CURRENT: 424/49; 424/51

FIELD-OF-SEARCH: 424/49, 424/51

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4567036	January 1986	Simon et al.	424/51
☐	5057497	October 1991	Calam et al.	514/21
☐	5126127	June 1992	Bhagwat et al.	424/78.25

ART-UNIT: 166

PRIMARY-EXAMINER: Dodson; Shelley A.

ASSISTANT-EXAMINER: Williamson; Michael A.

ATTY-AGENT-FIRM: Davidson, Davidson & Kappel, LLC

ABSTRACT:

A semi-paste oral preparation comprises, as effective ingredients, at least 0.1 to 20% by weight of povidone-iodine based on the total weight of the preparation, and 0 to 50 parts by weight of potassium iodide and 1 to 300 parts by weight of a sugar alcohol of an oligosaccharide as a base and stabilizer, the parts by weight being based on one part by weight of the povidone-iodine. This semi-paste oral preparation has a modest viscosity, good taste and good stability upon storage for a long time.

12 Claims, 0 Drawing figures

L8: Entry 40 of 83 File: USPT Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5843408 A
TITLE: Semi-paste oral preparations

Brief Summary Text (5):
Maltitol (reducing maltose) and lactitol (reducing lactose), which are sugar alcohols of oligosaccharides, have been used as wet humectants for dentifrices since they are more viscous and have a higher specific gravity, more excellent humectant property and better flavor and taste as compared with conventional ones. Japanese Patent Publication (Kokoku) No. 40-15120 and Japanese Patent Application Laying Open (Kokai) No. 49-31832. However, maltitol and lactitol have never been used as stabilizers for povidone-iodine or bases of semi-paste preparations for treating or preventing gingivitis, pyorrhea alveolaris and stomatitis, although they are used as wet humectants for dentifrices due to their excellent humectant properties.

Brief Summary Text (21):
The saccharides include monosaccharides, oligosaccharides and polysaccharides. So far as the viscosity is concerned, it is possible to use a sugar alcohol of a monosaccharide, such as sorbitol, xylitol and mannitol, as a base in combination with a thickener so as to produce a preparation having a suitable viscosity. However, such a thickener may affect the stability of povidone-iodine and is unsuitable for attaining the object of the present invention.

Brief Summary Text (22):
Sugar alcohols of oligosaccharides, such as maltitol, lactitol, maltitritol and maltitetraol, are suitable herein since an appropriate viscosity is provided. A sugar alcohol of a polysaccharide may provide a higher viscosity as compared with the oligosaccharides; however, some combinations of a polysaccharide and an oligosaccharide may provide a suitable viscosity.

Brief Summary Text (25):
Among sugar alcohols of oligosaccharides, substantially fully reduced products of a syrup containing about 75% maltose (w/w), which are compositions based on maltitol, that is so-called reducing maltose syrup, may be used to provide excellent stability and semi-paste-like quality, as well as other properties. In this case, unreduced products, that is saccharides, which are impurities in the reducing maltose syrup will affect the stability of povidone-iodine. Thus, the degree of reduction of maltose in the reducing maltose syrup used should be at least about 95%, preferably about 98% or higher.

Brief Summary Text (26):
In the reducing maltose syrup, other sugar alcohols of oligosaccharides than maltitol, such as maltitritol and maltitetraol, may also be effective in improving the stability of povidone-iodine. The viscosity of the preparation increases with the content of saccharides having a higher molecular weight. A suitable viscosity can be obtained by adjusting the ratio of saccharides with a smaller molecular weight to those with a higher molecular weight.

Brief Summary Text (33):
Other effective additives may include fluorides such as sodium, potassium, ammonium and stannous fluoride and sodium monofluorophogphate; allantoin chlorohydroxy ammonium, hinokitiol, tranoxamae acid, ascorbic acid, lysozyme chloride, glycyrrhizic acid and its salts, sodium chloride, dl-.alpha.-tocopherol acetate, .alpha.-bigabolol, isopropylmethylphenol, chlorhexidine salts, cetylpyridinium

chloride, azulone, glycyrrhetic acid, sodium copper chlorophyllin, aluminium lactate, berberine, hydroxamic acid and its derivatives, dextranase, mutanase amylase, epicihydrochlolesterol, benzethonium chloride, dihydrocholesterol, zinc citrate, Japanese angelica root soft extracts, and extracts of clove, rosemary, scutellaria root and safflower or other suitable agents known in the pharmaceutical art.

L8: Entry 40 of 83 File: USPT Dec 1, 1998

US-PAT-NO: 5843408
DOCUMENT-IDENTIFIER: US 5843408 A

TITLE: Semi-paste oral preparations

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattori; Masayuki	Kanagawa			JP
Fukushima; Akiko	Kanagawa			JP

US-CL-CURRENT: 424/49; 424/51

CLAIMS:

What is claimed is:

1. A pharmaceutically stable povidone-iodine semi-paste oral preparation comprising at least from about 0.1 to about 20% by weight of povidone-iodine based on the total weight of the preparation, about 0 to about 50 parts by weight of potassium iodide and from about 1 to about 300 parts by weight of a pharmaceutically stable base comprising a substantially fully reduced oligosaccharide; wherein said base is substantially less reactive with said povidone-iodine relative to the reactivity of non-reduced oligosaccharide with PVI, and said preparation is homogeneous and pharmaceutically stable relative to an equivalent formulation comprising a non-reduced oligosaccharide.

2. A method of prevention or treatment of oral or peri-oral diseases or conditions comprising the steps of applying to a desired site within the oral cavity or peri-oral area of a patient in need of prevention or treatment of an oral disease or condition a microbicidal or antiseptically effective amount of the semi-paste oral preparation of claim 1.

3. The method of prevention or treatment of oral diseases or conditions of claim 2, wherein said oral diseases or conditions are selected from the group consisting of gingivitis, pyorrhea alveolaris, stomatitis, dental plaque, dental caries, halitosis and other oral disease states which are caused substantially or which result substantially from microbes which succumb to the microbicidal or antiseptic properties of povidone-iodine or iodine.

4. The semi-paste oral preparation of claim 1, wherein said base comprises a substantially reduced oligosaccharide selected from the group consisting of maltitol, maltitritol, maltitetraol, lactitol and mixtures thereof.

5. The semi-paste oral preparation of claim 1, further comprising a wetting agent, thickener, foaming agent, stabilizer, sweetening agent, antiseptic, perfume, coloring agent, or combinations thereof.

6. The semi-paste oral preparation of claim 5, wherein said wetting agent is selected from the group consisting of glycerin, sorbitol, propylene glycol, polyethylene glycol or mixtures thereof.

7. The semi-paste oral preparation of claim 5, wherein said thickener is

selected from the group consisting of sodium carboxymethyl cellulose, hydroxyethyl cellulose, carrageenan, sodium alginate, xanthane gum, polysodium acrylate, polyvinyl alcohol, locust bean gum, Carbopol, guar gum, montmorillonite, gelatin, carboxyvinyl polymer, hydroxypropyl methyl cellulose, and mixtures thereof.

8. The semi-paste oral preparation of claim 5, wherein said foaming agent is selected from the group consisting of sodium laurylsulfate, sodium .alpha.-olefinsulfates, N-acylgarcosinates, N-acylglutamates, N-acyltaurates, sucrose fatty acid esters, armalolamnide, polyoxyethylene hydrogenated castor oil, and polyglycerin fatty acid esters, and combinations thereof.

9. The semi-paste oral preparation of claim 5, wherein said sweetening agent is selected from the group consisting of saccharin sodium, itevioside, p-methoxycinnamin aldehyde, neohesperidyl dihydrochalaoone, perillartine, and mixtures thereof.

10. The semi-paste oral preparation of claim 5, wherein said antiseptic is selected from the group consisting of p-oxyhydroxybenzoic esters, sodium benzoate, and mixtures thereof.

11. The semi-paste oral preparation of claim 1, further comprising an effective amount of a pharmaceutically acceptable fluoride ion.

12. The semi-paste of claim 1, which provides at least about 86% remaining effective povidone-iodine after exposure to storage conditions of 40.degree. C. for 3 months.

L17: Entry 11 of 28 File: USPT Sep 7, 1999

US-PAT-NO: 5948390
DOCUMENT-IDENTIFIER: US 5948390 A
**** See image for Certificate of Correction ****

TITLE: Stable zinc/citrate/CPC oral rinse formulations

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nelson; Dennis G. A.	Mountain Lakes	NJ		
Ortega, II; Alenjandro V.	Jersey City	NJ		

US-CL-CURRENT: 424/54; 424/49, 424/52, 424/641, 424/642

CLAIMS:

We claim:

1. A stable oral rinse or clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium moieties; and

d) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

2. The composition of claim 1, wherein the zinc cations are hydrated zinc cations.

3. The composition of claim 1, wherein the zinc cations are formed from zinc chloride, zinc sulfate, zinc gluconate, zinc acetate, and zinc lactate.

4. The composition of claim 1, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

5. The composition of claim 1, wherein the fully or partially protonated citrate moieties are formed from citric acid, a soluble pharmaceutically acceptable citrate salt, or mixtures thereof.

6. The composition of claim 1, wherein the amount of fully or partially protonated citrated moieties ranges from about 0.02% by weight to about 1% by

weight.

7. The composition of claim 1, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

8. The composition of claim 1, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1% by weight.

9. The composition of claim 5, wherein the soluble pharmaceutically acceptable citrate salt is selected from the group consisting of sodium citrate, ammonium citrate, potassium citrate, or mixtures thereof.

10. The composition of claim 1, further including from about 0.01% by weight to about 10.0% by weight of an orally acceptable surfactant selected from the group consisting of nonionic surfactants, amphoteric surfactants, or mixtures thereof.

11. The composition of claim 10, wherein said composition is an oral rinse and including from about 0.01% by weight to about 1% by weight of said surfactant.

12. The composition of claim 10, wherein said composition is an oral gel and including from about 0.5% by weight to about 5% by weight of said surfactant.

13. The composition of claim 1, wherein said composition is an oral rinse and further including up to about 25.0% by weight of an orally acceptable alcohol.

14. The composition of claim 1, wherein said composition is an oral gel and further including up to 60% by weight of an orally acceptable dental abrasive.

15. The composition of claim 14, wherein the orally acceptable dental abrasive is selected from the group consisting of silica, alumina, .beta.-phase calcium pyrophosphate and calcium carbonate.

16. The composition of claim 1, further including from about 50 ppm to about 500 ppm fluoride.

17. The composition of claim 16, wherein the composition in an oral rinse and the amount of fluoride is from about 50 ppm to about 250 ppm.

18. The composition of claim 16, wherein the composition is an oral gel and the amount of fluoride is from about 250 ppm to about 1500 ppm.

19. A stable oral rinse composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 2% by weight of fully or partially protonated citrate moieties, wherein the citrate moieties are formed from citric acid, a soluble pharmaceutically acceptable citrate salt, or mixtures thereof;

c) about 0.01% by weight to about 1% by weight of cetyl pyridinium moieties;

d) about 0.01% by weight to about 1% by weight of an orally acceptable surfactant selected from the group consisting of nonionic surfactants, amphoteric surfactants, or mixtures thereof;

e) from 0 to about 25.0% by weight of an orally acceptable alcohol;

f) about 50 ppm to about 250 ppm of fluoride; and

g) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said

composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

20. The composition of claim 19, wherein the zinc cations are hydrated zinc cations.

21. The composition of claim 19, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

22. The composition of claim 19, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

23. The composition of claim 19, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1 % by weight.

24. The composition of claim 19, wherein the soluble pharmaceutically acceptable citrate salt is selected from the group consisting of sodium citrate, ammonium citrate, potassium citrate, or mixtures thereof.

25. The composition of claim 19, wherein the amount of fully or partially protonated citrated moieties ranges from about 0.02% by weight to about 1 % by weight.

26. A clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated uncomplexed zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties wherein the citrate moieties are formed from citric acid, a soluble pharmaceutically acceptable citrate salt, or mixtures thereof;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium moieties;

d) about 0.5 to about 5% by weight of an orally acceptable surfactant selected from the group consisting of nonionic surfactants, amphoteric surfactants, or mixtures thereof;

e) from 0 to 60% by weight of an orally acceptable dental abrasive;

f) about 250 ppm to about 1500 ppm of fluoride; and

g) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5, said composition is substantially optically clear and substantially free of precipitants, flocculants, or crystals at about room temperature, said composition does not contain zinc citrate complexes selected from the group consisting of Zn(CIT).sup.-, Zn(CIT).sub.2.sup.4- and Zn(CIT)OH.sup.2-, and the unpleasant taste and aftertaste of said zinc cations and said cetyl pyridinium moieties are masked.

27. The composition of claim 25, wherein the zinc cations are hydrated zinc cations.

28. The composition of claim 25, wherein the amount of zinc cation ranges from about 0.02% by weight to about 0.25% by weight.

29. The composition of claim 26, wherein the cetyl pyridinium moieties are formed from a cetyl pyridinium pharmaceutically acceptable salt.

30. The composition of claim 25, wherein the amount of cetyl pyridinium moieties ranges from about 0.025% by weight to about 1 % by weight.

31. The composition of claim 26, wherein the soluble pharmaceutically acceptable citrate salt is selected from the group consisting of sodium citrate, ammonium citrate, potassium citrate, or mixtures thereof.

32. The composition of claim 25, wherein the amount of fully or partially protonated citrated moieties ranges from about 0.02% by weight to about 1 % by weight.

33. The composition of claim 26, wherein the orally acceptable dental abrasive is selected from the group consisting of silica, alumina, .beta.-phase calcium pyrophosphate and calcium carbonate.

WEST

Generate Collection | Print

L17: Entry 11 of 28 File: USPT Sep 7, 1999

US-PAT-NO: 5948390
DOCUMENT-IDENTIFIER: US 5948390 A
**** See image for Certificate of Correction ****

TITLE: Stable zinc/citrate/CPC oral rinse formulations

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nelson; Dennis G. A.	Mountain Lakes	NJ		
Ortega, II; Alenjandro V.	Jersey City	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Pfizer Inc.	New York	NY			02

APPL-NO: 09/ 135948 [PALM]
DATE FILED: August 18, 1998

PARENT-CASE:
This non-provisional application is based upon and claims priority from Provisional Application Ser. No. 60/056,766 filed Aug. 25, 1997. The present invention relates to oral care products comprising zinc, citrate and cetyl pyridinium chloride (CPC).

INT-CL: [06] A61 K 7/16, A61 K 7/18, A61 K 7/22, A61 K 33/90

US-CL-ISSUED: 424/54; 424/49, 424/52, 424/641, 424/642
US-CL-CURRENT: 424/54; 424/49, 424/52, 424/641, 424/642

FIELD-OF-SEARCH: 424/49-58, 424/641, 424/642

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3647869	March 1972	Kaloff	260/535P
☐	3887704	June 1975	Lichtenstein	424/145
☐	4011309	March 1977	Lutz	424/49
☐	4022880	May 1977	Vinson et al.	424/49
☐	4160821	July 1979	Sipos	424/49
☐	4183916	January 1980	Rodon	424/54
☐	4188372	February 1980	Gaffar	424/54
☐	4273759	June 1981	Gaffar	424/54

☐	4289754	September 1981	Dhabaar	424/52
☐	4289755	September 1981	Dhabaar	424/52
☐	4323552	April 1982	Schmolka	424/54
☐	4325939	April 1982	Shah	424/55
☐	4339432	July 1982	Ritchey et al.	424/54
☐	4472373	September 1984	Ryan	424/54
☐	4522806	June 1985	Muhlemann et al.	424/52
☐	4545979	October 1985	Ambike et al.	424/52
☐	4550018	October 1985	Ambike et al.	424/52
☐	4606912	August 1986	Rudy et al.	424/52
☐	4614649	September 1986	Gorman et al.	424/54
☐	4689214	August 1987	Niles et al.	424/49
☐	4986981	January 1991	Glace et al.	424/50
☐	4994262	February 1991	Charbonneau et al.	424/52
☐	5043154	August 1991	Gaffar	424/52
☐	5100650	March 1992	Carlin et al.	424/52
☐	5104644	April 1992	Douglas	424/53
☐	5158763	October 1992	Gaffar	424/54
☐	5174990	December 1992	Douglas	424/53
☐	5176901	January 1993	Gallopo et al.	424/54
☐	5178869	January 1993	Ebine et al.	424/49
☐	5185153	February 1993	Pollock	424/440
☐	5236699	August 1993	Libin	424/54
☐	5266306	November 1993	Ohtsuki et al.	424/54
☐	5292527	March 1994	Konopa	424/54
☐	5294432	March 1994	Winston et al.	424/52
☐	5300289	April 1994	Garlich et al.	424/54
☐	5310546	May 1994	Douglas	424/53
☐	5320829	June 1994	Garlich et al.	424/54
☐	5320830	June 1994	Lukacovic et al.	424/52
☐	5320831	June 1994	Majeti et al.	424/52
☐	5330748	July 1994	Winston et al.	424/49
☐	5372802	December 1994	Barrows et al.	424/52
☐	5431903	July 1995	Majeti et al.	424/52
☐	5437856	August 1995	Lukacovic et al.	424/50
☐	5447930	September 1995	Nayak	514/239.2
☐	5455024	October 1995	Winston et al.	424/52
☐	5616313	April 1997	Williams et al.	424/49
☐	5695745	December 1997	Barton et al.	424/49
☐	5851578	December 1998	Gandhi	426/590
☐	5855873	January 1999	Yam	424/49

ART-UNIT: 164

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Richardson; Peter C. Ginsburg; Paul H. Fuller, Jr.; Grover F.

ABSTRACT:

A stable oral rinse or clear oral gel composition, comprising:

a) about 0.01% by weight to about 1% by weight of hydrated zinc cations;

b) about 0.01% by weight to about 4% by weight of fully or partially protonated citrate moieties;

c) about 0.01% by weight to about 2% by weight of cetyl pyridinium cations; and

d) an orally acceptable vehicle;

wherein said composition has a pH of from about 3.0 to about 4.5.

33 Claims, 0 Drawing figures

L17: Entry 26 of 28 File: USPT Oct 9, 1990

US-PAT-NO: 4961923
DOCUMENT-IDENTIFIER: US 4961923 A

TITLE: Irrigants for use in scaling and/or lavage apparatus

DATE-ISSUED: October 9, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyde; John B.	Milford	DE		

US-CL-CURRENT: 424/49; 424/54, 424/55, 433/86

CLAIMS:

What is claimed is:

1. A dental irrigant comprising:

(a) about 70 to about 92 percent, by weight of the irrigant, of water;

(b) about 5 to about 25 percent, by weight of the irrigant, of ethyl alcohol;

(c) about 0.5 to about 30 percent, by weight of the irrigant, of hydrogenated starch hydrolysate; and

(d) about 0.01 to about 10 percent, by weight of the irrigant, of surfactant;

said irrigant having the characteristics of being a free flowing liquid substantially free of polyols having substantial humectant tendencies, substantially non-foaming and relatively non-sticky.

2. The dental irrigant of claim 1 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant.

3. The dental irrigant of claim 1 wherein said surfactant comprising polysorbate 80.

4. The dental irrigant of claim 1 comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring.

5. The dental irrigant of claim 1 comprising medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures thereof including mixtures with other medicaments.

6. The dental irrigant of claim 1 comprising sweeteners.

7. The dental irrigant of claim 1 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant; said surfactant comprising polysorbate 80; and said dental irrigant further comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring; and a medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures

thereof including mixtures with other medicaments.

8. A method for treatment periodontal disease comprising

(a) simultaneous high speed vibratory scaling and continuous delivering in-situ an irrigant through an ultrasonic dental scaling and lavage apparatus to enhance removal of bacteria and reduce viable counts of bacteria in the mouth, said irrigant comprising:

(a) about 70 to about 92 percent, by weight of the irrigant, of water;

(b) about 5 to about 25 percent, by weight of the irrigant, of ethyl alcohol;

(c) about 0.5 to about 30 percent, by weight of the irrigant, of hydrogenated starch hydrolysate; and

(d) about 0.01 to about 10 percent, by weight of the irrigant, of surfactant;

said irrigant having the characteristics of being a free flowing liquid substantially free of polyols having substantial humectant tendencies, substantially non-foaming and relatively non-sticky.

9. The method of treating periodontal disease of claim 8 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant.

10. The method of treating periodontal disease of claim 8 wherein said surfactant comprising polysorbate 80.

11. The method of treating periodontal disease of claim 8 wherein said irrigant comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring.

12. The method of treating periodontal disease of claim 8 wherein said irrigant comprising medicament chosen from the group chlorhexidine, zinc chloride, stannous flouride and cetylpyrinium chloride and mixture and thereof including mixtures with other medicaments.

13. The method of treating periodontal disease of claim 8 wherein said irrigant comprising sweeteners.

14. The method of treating periodontal disease of claim 8 wherein said hydrogenated starch hydrolysate is present in an amount of about 1 to about 10 percent, by weight of the irrigant; said surfactant comprising polysorbate 80; and said irrigant further comprising about 0.02 to about 1 percent, by weight of the irrigant, flavoring and coloring; and a medicament chosen from the group chlorhexidine, zinc chloride, stannous fluoride and cetylpyridinium chloride and mixtures thereof including mixtures with other medicaments.

WEST

Generate Collection | Print

L17: Entry 26 of 28 File: USPT Oct 9, 1990

US-PAT-NO: 4961923
DOCUMENT-IDENTIFIER: US 4961923 A

TITLE: Irrigants for use in scaling and/or lavage apparatus

DATE-ISSUED: October 9, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heyde; John B.	Milford	DE		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Dentsply Management Corp.	York	PA			02

APPL-NO: 07/ 418780 [PALM]
DATE FILED: October 2, 1989

PARENT-CASE:
This is a continuation of application Ser. No. 157,672, filed Feb. 19, 1988, now abandoned.

INT-CL: [05] A61K 7/16, A61K 7/24, A61C 1/07

US-CL-ISSUED: 424/49; 424/55, 424/54, 433/86
US-CL-CURRENT: 424/49; 424/54, 424/55, 433/86

FIELD-OF-SEARCH: 424/49, 424/55, 433/86

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3864472	February 1975	Pensak et al.	424/54
☐	3887701	June 1975	Nachitigal	424/54
☐	3947570	March 1976	Pensak et al.	424/54
☐	4022880	May 1977	Vinson et al.	424/49
☐	4150151	April 1979	Pader et al.	424/49
☐	4160821	June 1979	Sipos	424/49
☐	4289755	September 1981	Dhabhar	424/55
☐	4315742	February 1982	Nash et al.	433/86
☐	4325939	April 1982	Shah	424/55
☐	4339432	July 1982	Ritchey et al.	424/54
☐	4374122	February 1983	Stroz et al.	424/48
☐	4425325	January 1984	Ritchey et al.	424/54
☐	4435380	March 1984	Pader	424/49
☐	4465661	August 1984	Schmolka	424/58
☐	4472373	September 1984	Ryan	424/54
☐	4483848	November 1984	Cox et al.	424/49
☐	4508713	April 1985	Stroz et al.	514/60
☐	4522806	June 1985	Muhlemann et al.	424/52
☐	4582702	April 1986	Grollier	424/52
☐	4601900	July 1986	Noponen et al.	424/54
☐	4632937	December 1986	Lynch	514/470
☐	4770634	September 1988	Pellico	433/217.1
☐	4800095	January 1989	Carroll et al.	426/548

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
961412	January 1975	CA	433/86
988431	May 1976	CA	
1001554	December 1976	CA	
1028623	March 1978	CA	
1034505	July 1978	CA	
1042806	November 1978	CA	
1087098	October 1980	CA	
1095422	February 1981	CA	
1104939	July 1981	CA	
1116091	January 1982	CA	
1122123	April 1982	CA	
1139229	January 1983	CA	
1161860	February 1984	CA	
1168159	May 1984	CA	
DE3023461	January 1981	DE	
DE3001575	July 1981	DE	
1469399	April 1977	GB	

ART-UNIT: 115

PRIMARY-EXAMINER: Clingman; A. Lionel

ATTY-AGENT-FIRM: Hanson, Jr.; Edward J.

ABSTRACT:

Irrigants to be used with vibratory scaling apparatus and lavage are provided. The irrigants of the invention are characterized in that they contain medicaments for the treatment of conditions in the mouth and have a viscosity and deliquescence adapted to substantially optimize the efficiency of the apparatus. The irrigants are formulated so that they have minimal stickiness on drying, minimal foaming and do not gum-up the apparatus in which they are used. Also provided is a method for treating dental diseases comprising applying the irrigants of the invention through a vibratory scaling apparatus to substantially optimize the efficiency of said apparatus and to substantially optimize destruction and removal of infectious bacteria using said apparatus and the removal or inactivation of endotoxins derived from bacteria or the host.

14 Claims, 0 Drawing figures

L6: Entry 40 of 51 File: USPT Dec 27, 1994

DOCUMENT-IDENTIFIER: US 5376374 A
TITLE: Oral rinse composition

Brief Summary Text (4):
The oral hygiene procedures of most people include a rinse of the mouth. For many, a rinse with fresh water is sufficient. Others prefer to include a rinse with a specially formulated product as a way to freshen the breath and control the bacterial population of the mouth. A popular product offered for killing germs that cause plaque, gingivitis, and so-called bad breath contains thymol, eucalyptol, methyl salicylate, and menthol as identified active ingredients along with water, nearly 30% alcohol, caramel color, and a preservative. The labels of two other products sold through large retail outlets list such ingredients as water, alcohol(17%), glycerine, sodium saccharin, sodium benzoate, cetyl pyridinium chloride, flavor, domiphen bromide, and color; and water, alcohol(15%), sorbitol, sodium lauryl sulfate, polysorbate 20, flavor, sodium saccharin, sodium chloride, and sodium citrate. Thus the use of synthetic chemicals is clearly evident in these products as antiseptics, surfactants, sweeteners, and preservatives, as is the presence of significant levels of alcohol.

Brief Summary Text (31):
Hangay et al U.S. Pat. No. 5,080,901 of Jan. 14, 1992 discloses an active ingredient composition comprising extracts of marigold (i.e. calendula), horse-chestnut, licorice, silver-weed, walnut-tree leaves, and Roman camomile oil, used for the treatment of hemorrhoids, sunburn, and dry and sensitive skin.

Brief Summary Text (38):
Ayache U.S. Pat. No. 4,795,638 of Jan. 3, 1989 discloses a cosmetic composition to be applied to the skin in order to reduce or eliminate cellulite or fat build-up. The composition contains in an oily base, (1) a rubefacient, (2), at least one oil soluble plant extract from a plant chosen from the group comprising climbing ivy, arnica, rosemary, marigold, sage, ginseng, Saint Johns wort, ruscus, ulmaria, orthosiphon, and algae, and (3) a volatile organo polysiloxane. Substances which can be used as a rubefacient include capsicum extracts; nicotinic acid salts such as triethanolamine nicotinate; nicotinic acid esters such as methyl, ethyl, hexyl, phenyl, and benzyl nicotinate as well as alpha tocopherol nicotinate; nicotinyl alcohol and its organic acid esters such as for example nicotinyl tartarate or nicotinate.

L6: Entry 40 of 51 File: USPT Dec 27, 1994

US-PAT-NO: 5376374
DOCUMENT-IDENTIFIER: US 5376374 A

TITLE: Oral rinse composition

DATE-ISSUED: December 27, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zelaya; Luz M.	Linden	NJ	07036	

US-CL-CURRENT: 424/726; 210/500.26, 424/737, 514/725, 514/901, 514/902, 549/315, 549/408

CLAIMS:

I claim:

1. A pleasant tasting oral rinse consisting essentially of

a) cayenne pepper,

b) calendula,

c) echinacea,

d) goldenseal,

e) propolis,

f) vinegar, and

g) water

in a liquid preparation, in which the proportions of ingredients f and g are in the range of 2:5 to 5:2 relative to one another and combined are in a proportion by volume of 67 to 77 parts f and g combined to 23 to 33 parts of a,b,c,d, and e total, and ingredients a, b, c, d, and e are present in relative proportions by weight of 8 to 12 parts of a, 48 to 64 parts of b, 48 to 64 parts of c, 48 to 64 parts of d, and 70 to 98 parts of e.

2. An oral rinse according to claim 1 in which ingredient f is apple cider vinegar.

3. A stable concentrate suitable for preparation of a pleasant tasting herbal rinse according to claim 1 comprising tincture of cayenne pepper, tincture of calendula, tincture of echinacea, tincture of goldenseal, and propolis.

4. The method of relieving oral discomfort comprising the steps of inserting in the mouth of a person in need of relieving oral discomfort a suitable quantity of oral rinse according to claim 1, holding said rinse in the mouth for a sufficient time, and removing said oral rinse from the mouth.

5. The method according to claim 4 in which the quantity of oral rinse is in the

range from two to ten milliliters.

6. The method according to claim 4 in which the holding time in the mouth is in the range from 1 to 2 minutes.

7. The method of alleviating gum disease comprising the steps of inserting in the mouth of a patient in need of alleviating gum disease a suitable quantity of oral rinse according to claim 1, holding said rinse in the mouth for a sufficient time, and removing said oral rinse from the mouth.

8. The method of claim 7 in which the steps of inserting a quantity of oral rinse into the mouth, holding said oral rinse in the mouth, and removing said oral rinse from the mouth are repeated periodically for a period of time in the range from two weeks to four months.

9. The method of claim 7 further supplemented by the administration of dietary supplement comprising zinc, vitamin C, vitamin E, beta-carotene, and co-enzyme Q10.

WEST

Generate Collection | Print

L6: Entry 40 of 51 File: USPT Dec 27, 1994

US-PAT-NO: 5376374
DOCUMENT-IDENTIFIER: US 5376374 A

TITLE: Oral rinse composition

DATE-ISSUED: December 27, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Zelaya; Luz M.	Linden	NJ	07036	

APPL-NO: 08/ 066470 [PALM]
DATE FILED: May 24, 1993

INT-CL: [05] A61K 35/78, A61K 7/26, C07D 305/12, C01G 9/02

US-CL-ISSUED: 424/195.1; 514/901, 514/902, 514/725, 424/58, 549/408, 549/315, 423/622
US-CL-CURRENT: 424/726; 210/500.26, 424/737, 514/725, 514/901, 514/902, 549/315, 549/408

FIELD-OF-SEARCH: 424/195.1, 424/58, 514/901, 514/902

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4382886	May 1983	Sosmowski	260/107

ART-UNIT: 183

PRIMARY-EXAMINER: Rollins; John W.

ASSISTANT-EXAMINER: Lee; Howard C.

ATTY-AGENT-FIRM: Kauder; Otto S.

ABSTRACT:

There is disclosed a pleasant tasting oral rinse composition and a method of using the same. The composition consists essentially of cayenne pepper, calendula, echinacea, goldenseal, propolis, vinegar, and water in certain proportions.

9 Claims, 0 Drawing figures

L6: Entry 43 of 51 File: USPT Jul 24, 1990

DOCUMENT-IDENTIFIER: US 4943429 A
TITLE: Dentifrice gels containing sodium bicarbonate

Brief Summary Text (4):
Many different dentifrice compositions are known for cleaning, whitening, and preserving the teeth. Of these known dentifrices, many include water-insoluble abrasives such as calcium carbonate, dicalcium phosphate, tricalcium phosphate, calcium pyrophosphate, sodium metaphosphate, or corresponding magnesium salts, which act as polishing agents for the teeth. Conventional cream or paste dentifrices containing such abrasives are opaque.

Detailed Description Text (10):
Suitable surfactants include anionic surfactants such as the sulfates of long chain (C.sub.8 -C.sub.18) alcohols, e.g., sodium lauryl sulfate or sodium tridecylsulfate; the sulfates or sulfonates of monoglycerides, e.g., sodium lauroyl glyceryl sulfate or sodium coconut monoglyceride sulfonate; the sulfonates of succinic esters, e.g., sodium dioctyl sulfosuccinate; the alkyl sulfoacetates such as sodium lauroyl sulfoacetate or sodium coconut sulfoacetate; the salts of sulfoacetic acid modified by aminoethyl long chain fatty acid esters such as sodium sulfocolaurate; the amides formed from higher fatty acids with short chain amino acids such as sodium lauroyl sarcosinate or sodium methyl lauroyl tauride; and soaps such as the sodium, potassium or triethanolamine salts of fatty acids. Similarly, nonionic surfactants may be used such as the ethoxylated sugar esters of the higher fatty acids, for example, ethoxylated sorbitan monostearate and ethoxylated glycerol monostearate. Also, amphoteric surfactants such as the mono or dicarboxylated imidazoline derivatives of fatty acids, e.g., sodium lauryl dicarboxy imidazoline or sodium coconut dicarboxy imidazoline, may be used. Cationic surfactants such as those which additionally impart significant antibacterial action to the gel may also be used in the gel. Examples of such surfactants include benzyl dimethyl stearyl ammonium chloride and cetylpyridinium chloride. Most desirably, the surfactant is incorporated within the range of about 0.2 to 2.0%, by weight of the gel. Flavoring agents useful in the dentifrice gel include the flavoring oils; for example, oils of peppermint, spearmint, menthol, wintergreen, clove, sassafras, cinnamon, lemon, orange, methylsalicylate, licorice, sage, marjoram or eucalyptus. Most desirably, the flavoring agent is present in the gel in an amount within the range of about 0.2 to 2.0% by weight.

WEST

Generate Collection | Print

L6: Entry 43 of 51 File: USPT Jul 24, 1990

US-PAT-NO: 4943429
DOCUMENT-IDENTIFIER: US 4943429 A

TITLE: Dentifrice gels containing sodium bicarbonate

DATE-ISSUED: July 24, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Winston; Anthony E.	East Brunswick	NJ		
Miskewitz; Regina M.	Hillsborough	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Church & Dwight Co., Inc.	Princeton	NJ			02

APPL-NO: 07/ 197218 [PALM]
DATE FILED: May 23, 1988

INT-CL: [05] A61K 7/16, A61K 7/18

US-CL-ISSUED: 424/52; 424/49
US-CL-CURRENT: 424/52; 424/49

FIELD-OF-SEARCH: 424/49, 424/58, 424/52

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	2128917	September 1938	Crocker	
☐	3906090	September 1975	Colodney	
☐	3927202	December 1975	Harvey et al.	
☐	3935305	January 1976	Delaney et al.	
☐	3937321	February 1976	Delaney et al.	
☐	3937803	February 1976	Delaney et al.	424/49
☐	3937804	February 1976	Delaney et al.	
☐	3943240	March 1976	Delaney et al.	
☐	3985668	October 1976	Hartman	252/99
☐	4005027	January 1977	Hartman	252/95
☐	4036949	July 1977	Colodney	
☐	4051055	September 1977	Trinh et al.	252/95
☐	4051056	September 1977	Hartman	252/99
☐	4123395	October 1978	Maguire et al.	252/559
☐	4160022	July 1979	Delaney et al.	
☐	4273759	June 1981	Gaffar et al.	
☐	4397755	August 1983	Brierley et al.	252/113
☐	4487757	December 1984	Kozpeoplou	424/49
☐	4528180	July 1985	Schaeffer	424/53
☐	4547362	October 1985	Winston et al.	424/49
☐	4590065	May 1986	Piechota, Jr. et al.	
☐	4623536	November 1986	Winston et al.	424/49
☐	4647451	March 1987	Piechota	424/49
☐	4663153	May 1987	Winston et al.	
☐	4687663	August 1987	Schaeffer	424/53
☐	4721614	January 1988	Winston et al.	
☐	4776500	October 1988	Ford	424/53 X
☐	4784788	November 1988	Lanez	252/114
☐	4788052	November 1988	Ng et al.	424/53

ART-UNIT: 125

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Bryan, Cave, McPheeters & McRoberts

ABSTRACT:

A sodium bicarbonate-based dentifrice gel which comprises sodium bicarbonate in an aqueous carrier with a humectant such as glycerol or sorbitol. Secondary abrasives such as hydrogen silica gels may be incorporated in the dentifrice gel.

12 Claims, 0 Drawing figures

WEST

Generate Collection Print

L6: Entry 45 of 51 File: USPT Apr 10, 1990

DOCUMENT-IDENTIFIER: US 4915948 A
TITLE: Tablets having improved bioadhesion to mucous membranes

Brief Summary Text (11):
U.S. Pat. No. 4,615,697 issued to Robinson on Oct. 7, 1986 discloses controlled release compositions and methods utilizing those compositions. The compositions include a bioadhesive and an effective amount of a treating agent. The bioadhesive comprises a water-swellable, but water-insoluble, fibrous, cross-linked carboxy-functional polymer. In typical practice, the ratio by weight of the bioadhesive to the treating agent in the composition is about 200,000:1 to about 1:100.

Detailed Description Text (22):
Effective amounts of active agents are used and the active agents contemplated for use herein are any materials or compounds suitable for oral administration in relatively small amounts over a period of time. Those skilled in the art will appreciate that the amount of active agent which can be delivered depends in part on the size of the final tablet produced. The size of the tablet is generally only limited by what would be considered comfortable for oral use by the consumer. Generally, an acceptable sized tablet weighs about 80 to about 150 mg with about 80 to about 105 mg being preferred, and about 80 to about 100 mg being most preferred. Examples of such active agents include but are not limited to flavoring agents (flavors or flavorings); breath fresheners, such as chlorophyll, metallic salts used as copper gluconate, zinc chloride, and the like, natural vegetable oils, such as cottonseed oil and the like; anti-cariogenic compounds such as the metallic salts of fluorine, e.g., orally ingestible fluorides such as sodium fluoride, sodium monofluorophosphate, stannous fluoride, amine fluorides and the like; local anesthetics such as benzocaine, and the like; oral antiseptics such as chlorhexidine and salts thereof, hexylresorcinol, dequalinium chloride, cetylpyridinium chloride, and the like; anti-inflammatory agents such as triamcinelone, hydrocortisone, and the like; antifungal agents such as miconazole, nystatin, and the like; antiplaque agents such as chlorhexidine and salts thereof, octenidine, and mixtures of thymol, menthol, methysalicylate, and eucalyptol, and the like; tooth densitizers such as potassium nitrate and the like; mixtures thereof; and the like. While the amount of the active agent used may depend upon the type of agent used and the condition being treated, and such amounts are readily determined by those skilled in the art without undue experimentation, the tablets can contain up to about 15% by weight of active agent with up to about 10% being preferred.

Detailed Description Text (26):
Further examples of aldehyde flavorings include, but are not limited to: acetaldehyde (apple); benzaldehyde (cherry, almond); anisic aldehyde (licorice, anise); cinnamic aldehyde (cinnamon); citral, i.e., alpha citral (lemon, lime); neral, i.e. beta citral (lemon, lime); decanal (orange, lemon); ethyl vanillin (vanilla, cream); heliotropine, i.e., piperonal (vanilla, cream); vanillin (vanilla, cream); alpha-amyl cinnamaldehyde (spicy fruity flavors); butyraldehyde butter, cheese); valeraldehyde butter, cheese); citronellal (modifies, many types); decanal (citrus fruits); aldehyde C-8 (citrus fruits); aldehyde C-9 (citrus fruits); aldehyde C-12 (citrus fruits); 2-ethyl butyraldehyde (berry fruits); hexenal, i.e., trans-2 (berry fruits); tolyl aldehyde (cherry, almond); veratraldehyde (vanilla); 2,6-dimethyl-5-heptenal, i.e., Melonal (melon); 2,6-dimethyloctanal (green fruit); and 2-dodecenal (citrus, mandarin); cherry; grape; strawberry shortcake; mixtures thereof; and the like.

WEST

Generate Collection | Print

L6: Entry 45 of 51 File: USPT Apr 10, 1990

US-PAT-NO: 4915948
DOCUMENT-IDENTIFIER: US 4915948 A

TITLE: Tablets having improved bioadhesion to mucous membranes

DATE-ISSUED: April 10, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gallopo; Andrew R.	Garfield	NJ		
Dills; Steven S.	Wharton	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Warner-Lambert Company	Morris Plains	NJ			02

APPL-NO: 07/ 091575 [PALM]
DATE FILED: August 31, 1987

INT-CL: [04] A61F 13/00

US-CL-ISSUED: 424/435; 424/464, 424/499
US-CL-CURRENT: 424/435; 424/464, 424/49, 424/499, 424/52, 514/54, 514/57, 514/777

FIELD-OF-SEARCH: 424/435, 424/464, 424/499

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3911099	October 1975	DeFoney et al.	424/435
☐	3996934	December 1976	Zaffaroni	128/268
☐	4226848	October 1980	Nagai et al.	424/14
☐	4250163	September 1981	Nagai et al.	424/22
☐	4286592	September 1981	Chandrasekaran	128/260
☐	4292299	September 1981	Suzuki	424/16
☐	4572832	February 1986	Kigasawa	424/435
☐	4597959	July 1986	Barr	424/19
☐	4615697	October 1986	Robinson	604/890

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0762574	August 1971	BE	424/435
2712161	September 1978	DE	424/435
3534981	April 1986	DE	424/435
61-122211	June 1986	JP	424/435
1240411	July 1971	GB	
2156215	October 1985	GB	
2161073	January 1986	GB	

ART-UNIT: 158

PRIMARY-EXAMINER: Page; Thurman K.

ATTY-AGENT-FIRM: Jeannette; Henry C.

ABSTRACT:

A tablet having improved bioadhesion to mucous membranes is disclosed. The tablet comprises effective amounts of a water-soluble biopolymer selected from the group consisting of a xanthan gum, a pectin and mixtures thereof; and a solid polyol having a solubility at room temperature in water greater than about 20 grams of polyol per 100 g of solution. Preferably the biopolymer is xanthan gum and the polyol is a sugar alcohol selected from the group consisting of sorbitol, xylitol, and mixtures thereof.

24 Claims, 3 Drawing figures

L6: Entry 46 of 51 File: USPT Jan 26, 1988

DOCUMENT-IDENTIFIER: US 4721614 A
TITLE: Sodium bicarbonate containing toothpaste

Brief Summary Text (4):
Many different dentifrice compositions are known for cleaning, whitening, and preserving the teeth. Of these know dentifrices, many include high contents of water-insoluble abrasives which aid in removing plaque and retarding stain build-up on the teeth. However, since the ultimate goal of any oral hygiene regimen is preservation of the teeth, it is widely accepted that dentifrice compositions should include the least abrasive material necessary to remove plaque and stain.

Brief Summary Text (22):
Suitable surfactants include anionic surfactants such as the sulfates of long chain (C.sub.8 -C.sub.18) alcohols e.g. sodium lauryl sulfate or sodium tridecyl sulfate, the sulfates or sulfonates of monoglycerides e.g. sodium lauroyl glyceryl sulfate or sodium coconut monoglyceride sulfonate; the sulfonates of succinic esters e.g. sodium dioctyl sulfosuccinate; the alkyl sulfoacetates such as sodium lauryl sulfoacetate or sodium coconut sulfoacetate; the salts of sulfoacetic acid amidified with amino ethyl long chain fatty acid esters such as sodium sulfocolaurate; the amides formed from higher fatty acids with short chain amino acids such as sodium lauroyl sarcosinate or sodium methyl lauroyl tauride and soaps such as the sodium, potassium or triethanolamine salts of fatty acids. Similarly non-ionic surfactants may be used such as the ethoxylated sugar esters of the higher fatty acids for example ethoxylated sorbitan monostearate and ethoxylated glycol monostearate. Also amphoteric surfactants such as the mono or dicarboxylated imidazoline derivatives of fatty acids such as sodium lauryl dicarboxy imidazoline or sodium coconut dicarboxy imidazoline may be used. Cationic surfactants may also be used in the invention. These materials may impart significant antibacterial action to the product. Examples are benzyl dimethyl stearyl ammonium chloride and cetyl pyridinium chloride. The surfactant(s) are present in the toothpaste in an amount of up to about 5.0%, preferably within the range of about 0.3% to 2.0%, by weight of the toothpaste.

Brief Summary Text (24):
Moreover, much of the saltiness can be masked by the addition of optional flavoring agents and/or sweeteners to the toothpaste formulation. Suitable flavoring agents include the flavoring oils, for example, peppermint, spearmint, menthol, wintergreen, clove, cinnamon, lemon, orange, methylsalicylate, licorice, or eucalyptus. The flavoring agent may be present in the toothpaste in an amount up to about 5.0%, preferably in an amount within the range of about 0.3 to 2.0% by weight of the toothpaste. Suitable sweeteners include sodium saccharin, sodium or calcium cyclamate, aspartame, and other sweeteners known to those skilled in the art. The sweetener may be present in the toothpaste in an amount of up to about 5.0%, preferably about 0.3 to 2.0%, by weight of the toothpaste. It should be noted that humectants, e.g. sorbitol, may sweeten the formulation to some degree. However, the amount of humectant present in the composition is not included in the range of sweetener set forth above.

WEST

Generate Collection | Print

L6: Entry 46 of 51 File: USPT Jan 26, 1988

US-PAT-NO: 4721614
DOCUMENT-IDENTIFIER: US 4721614 A

TITLE: Sodium bicarbonate containing toothpaste

DATE-ISSUED: January 26, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Winston; Anthony E.	East Brunswick	NJ		
Brown; Raymond	Bridgewater	NJ		
Usen; Norman	Marlboro	NJ		
Ansaldi; Anthony	Mt. Arlington	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Church & Dwight Co., Inc.	Piscataway	NJ			02

APPL-NO: 06/ 879609 [PALM]
DATE FILED: June 27, 1986

PARENT-CASE:
This is a division of U.S. application Ser. No. 744,497, filed June 13, 1985, now U.S. Pat. No. 4,623,536.

INT-CL: [04] A61K 7/16, A61K 7/18

US-CL-ISSUED: 424/52; 424/49
US-CL-CURRENT: 424/52; 424/49

FIELD-OF-SEARCH: 424/49, 424/52

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	1082681	December 1913	Dannek	424/49
☐	1112180	September 1914	Westenfelter	167/93
☐	1297494	March 1919	Rhein	424/55
☐	1716035	February 1927	Donchi	424/55
☐	1943467	February 1932	Bley	424/50
☐	2024146	December 1935	Crowther	424/49
☐	2035267	March 1936	Fleischmann	424/53
☐	2128917	September 1938	Crocker	167/93
☐	2196150	April 1940	Heald et al.	424/37
☐	2196194	April 1940	Schullrud	424/49
☐	2216816	October 1940	Kuever	424/57
☐	2519665	August 1950	Klippert	424/57
☐	2550207	April 1951	Tainter et al.	424/49
☐	2723217	November 1955	Olrshon et al.	424/57
☐	2820000	January 1958	Menzies	424/49
☐	2941926	June 1960	Sallmann et al.	424/57
☐	3003919	October 1961	Broge	424/49
☐	3060098	October 1962	Gershon	424/57
☐	3325368	June 1967	Wood	424/57
☐	3330732	July 1967	Muhler	424/49
☐	3450813	June 1969	Muhler	424/49
☐	3647381	March 1972	Reiter	424/49
☐	3935304	January 1976	Januszewski et al.	424/49
☐	3935305	January 1976	Delaney et al.	424/49
☐	3937321	February 1976	Delaney et al.	424/49
☐	3937803	February 1976	Delaney et al.	424/49
☐	3937804	February 1976	Delaney et al.	424/52
☐	3943240	March 1976	Delaney et al.	424/49
☐	3947570	March 1976	Pensak et al.	424/49
☐	3957968	May 1976	Cordon	424/57
☐	3989813	November 1976	Januszewski et al.	424/54
☐	4060599	November 1977	Cordon	424/49
☐	4089943	May 1978	Roberts et al.	424/49
☐	4102992	July 1978	Davis	424/49
☐	4132770	January 1979	Barth	424/49
☐	4144322	March 1979	Cordon et al.	424/49
☐	4160022	July 1979	Delaney et al.	424/49
☐	4168301	September 1979	Pugh et al.	424/49
☐	4276287	June 1981	Cabardo	424/49
☐	4276287	June 1981	Cabardo, Jr.	424/49
☐	4344931	August 1982	Agvilar	424/49
☐	4547362	October 1985	Winston et al.	424/49

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1413643	November 1975	GB	
1413642	November 1975	GB	
1413641	November 1975	GB	
2112642A	July 1983	GB	

OTHER PUBLICATIONS

Lehne et al., Clinical Preventive Dentistry 5(1):17-18, Jan.-Feb. 1983, Abrasivity of Sodium Bicarbonate.

ART-UNIT: 125

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Stiefel, Gross, Kurland & Pavane

ABSTRACT:

A toothpaste containing at least 60% sodium bicarbonate particles as the sole abrasive, at least 30% of the sodium bicarbonate having particle sizes of less than 25 microns. Humectants, thickening agents, fluoridating agents, flavors, sweeteners and other conventional adjuvants may also be included in the toothpaste.

15 Claims, 0 Drawing figures

L6: Entry 47 of 51 File: USPT Nov 18, 1986

DOCUMENT-IDENTIFIER: US 4623536 A
TITLE: Sodium bicarbonate containing toothpaste

Brief Summary Text (4):
Many different dentifrice compositions are known for cleaning, whitening, and preserving the teeth. Of these known dentifrices, many include high contents of water-insoluble abrasives which aid in removing plaque and retarding stain build-up on the teeth. However, since the ultimate goal of any oral hygiene regimen is preservation of the teeth, it is widely accepted that dentifrice compositions should include the least abrasive material necessary to remove plaque and stain.

Brief Summary Text (22):
Suitable surfactants include anionic surfactants such as the sulfates of long chain (C.sub.8 -C.sub.18) alcohols e.g. sodium lauryl sulfate or sodium tridecyl sulfate, the sulfates or sulfonates of monoglycerides e.g. sodium lauroyl glyceryl sulfate or sodium coconut monoglyceride sulfonate; the sulfonates of succinic esters e.g. sodium dioctyl sulfosuccinate; the alkyl sulfoacetates such as sodium lauryl sulfoacetate or sodium coconut sulfoacetate; the salts of sulfoacetic acid amidified with amino ethyl long chain fatty acid esters such as sodium sulfocolaurate; the amides formed from higher fatty acids with short chain amino acids such as sodium lauroyl sarcosinate or sodium methyl lauroyl tauride and soaps such as the sodium, potassium or triethanolamine salts of fatty acids. Similarly non-ionic surfactants may be used such as the ethoxylated sugar esters of the higher fatty acids for example ethoxylated sorbitan monostearate and ethoxylated glycol monostearate. Also amphoteric surfactants such as the mono or dicarboxylated imidazoline derivatives of fatty acids such as sodium lauryl dicarboxy imidazoline or sodium coconut dicarboxy imidazoline may be used. Cationic surfactants may also be used in the invention. These materials may impart significant antibacterial action to the product. Examples are benzyl dimethyl stearyl ammonium chloride and cetyl pyridinium chloride. The surfactant(s) are present in the toothpaste in an amount of up to about 5.0%, preferably within the range of about 0.3% to 2.0%, by weight of the toothpaste.

Brief Summary Text (24):
Moreover, much of the saltiness can be masked by the addition of optional flavoring agents and/or sweeteners to the toothpaste formulation. Suitable flavoring agents include the flavoring oils, for example, peppermint, spearmint, menthol, wintergreen, clove, cinnamon, lemon, orange, methylsalicylate, licorice, or eucalyptus. The flavoring agent may be present in the toothpaste in an amount up to about 5.0%, preferably in an amount within the range of about 0.3 to 2.0% by weight of the toothpaste. Suitable sweeteners include sodium saccharin, sodium or calcium cyclamate, aspartame, and other sweeteners known to those skilled in the art. The sweetener may be present in the toothpaste in an amount of up to about 5.0%, preferably about 0.3 to 2.0%, by weight of the toothpaste. It should be noted that humectants, e.g. sorbitol, may sweeten the formulation to some degree. However, the amount of humectant present in the composition is not included in the range of sweetener set forth above.

WEST

Generate Collection | Print

L6: Entry 47 of 51 File: USPT Nov 18, 1986

US-PAT-NO: 4623536
DOCUMENT-IDENTIFIER: US 4623536 A

TITLE: Sodium bicarbonate containing toothpaste

DATE-ISSUED: November 18, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Winston; Anthony E.	East Brunswick	NJ		
Brown; Raymond	Bridgewater	NJ		
Usen; Norman	Marlboro	NJ		
Ansaldi; Anthony	Mt. Arlington	NJ		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Church & Dwight Co., Inc.	Piscataway	NJ			02

APPL-NO: 06/ 744497 [PALM]
DATE FILED: June 13, 1985

INT-CL: [04] A61K 7/16, A61K 7/18

US-CL-ISSUED: 424/49; 424/52
US-CL-CURRENT: 424/49; 424/52

FIELD-OF-SEARCH: 424/49-58

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	1082681	December 1913	Danner	424/49
☐	1112180	September 1914	Westenfelter	167/93
☐	1297494	March 1919	Rhein	424/55
☐	1716035	February 1927	Donchi	424/55
☐	1943467	February 1932	Bley	424/50
☐	2024146	December 1935	Crowther	424/49
☐	2035267	March 1936	Fleischmann	424/53
☐	2128917	September 1938	Crocker	167/93
☐	2196150	April 1940	Heald et al.	424/57
☐	2196154	April 1940	Schullrud	424/49
☐	2216816	October 1940	Kuever	424/57
☐	2519665	August 1950	Klippert	424/57
☐	2550207	April 1951	Tainter et al.	424/49
☐	2723217	November 1955	Gershon et al.	424/57
☐	2820000	January 1958	Menzies	424/49
☐	2941926	June 1960	Sallmann et al.	424/57
☐	3003919	October 1961	Broge	424/49
☐	3060098	October 1962	Gershon	424/57
☐	3325368	June 1967	Wood	424/57
☐	3330732	July 1967	Muhler	424/49
☐	3450813	June 1969	Muhler	424/49
☐	3647381	March 1972	Reiter	424/49
☐	3935304	January 1976	Januszewski et al.	424/49
☐	3935305	January 1976	Delaney et al.	424/49
☐	3937321	February 1976	Delaney et al.	424/49
☐	3937803	February 1976	Delaney et al.	424/49
☐	3937804	February 1976	Delaney et al.	424/52
☐	3943240	March 1976	Delaney et al.	424/49
☐	3947570	March 1976	Pensak et al.	424/49
☐	3957968	May 1976	Cordon	424/57
☐	3989813	November 1976	Januszewski et al.	424/54
☐	4060599	November 1977	Cordon	424/49
☐	4089943	May 1978	Roberts et al.	424/49
☐	4102992	July 1978	Davis	424/49
☐	4132770	January 1979	Barth	424/49
☐	4144322	March 1979	Cordon et al.	424/49
☐	4160022	July 1979	Delaney et al.	424/49
☐	4168301	September 1979	Pugh et al.	424/49
☐	4276287	June 1981	Cabardo	424/49
☐	4344931	August 1982	Aguilar	424/49
☐	4547362	October 1985	Winston et al.	424/49

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
1413643	November 1975	GB	
1413642	November 1975	GB	
1413641	November 1975	GB	
2112642A	July 1983	GB	

OTHER PUBLICATIONS

Lehne et al., Clinical Preventive Dentistry 5(1):17-18 Jan.-Feb. 1983, Abrasivity of Sodium Bicarbonate.

ART-UNIT: 123

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Stiefel, Gross, Kurland & Pavane

ABSTRACT:

A toothpaste containing at least 60% sodium bicarbonate particles as the sole abrasive, at least 30% of the sodium bicarbonate having particle sizes of less than 25 microns. Humectants, thickening agents, fluoridating agents, flavors, sweeteners and other conventional adjuvants may also be included in the toothpaste.

10 Claims, 0 Drawing figures

WEST

Generate Collection Print

L6: Entry 48 of 51 File: USPT Jul 23, 1985

DOCUMENT-IDENTIFIER: US RE31954 E
TITLE: Oral composition

Detailed Description Text (2):
The flavored oral composition may be a dental cream (including gel) in which case the dental vehicle is typically a blend of an aqueous phase of water and/or humectant with a gelling or binding agent, generally with a dentally acceptable water-insoluble polishing agent; a dental tablet, in which case the dental vehicle is typically a binding agent and a dentally acceptable water-insoluble polishing agent; chewing gums, in which case the dental vehicle is typically an art-recognized gum base; tooth powders, in which case the dental vehicle is typically a water-insoluble dental polishing agent, and mouthwashes in which case the dental vehicle is an aqueous-alcohol, typically also including humectant. Other types of oral compositions include candies, lozenges, etc. The dental vehicle material is suitable for introducing the product into the oral cavity. Dental creams and mouthwashes are preferred aspects of the present invention.

Detailed Description Text (3):
.Iadd.British Patent Specification 1,432,452 published April 14, 1976, to MacAndrews and Forbes Company, discloses a sweetening agent in which the long-lasting licorice after-taste of ammoniated glycyrrhizin is repressed by a 5'-nucleotide in order to permit the long-lasting sweetness of the ammoniated glycyrrhizin to be noted. The sweetening agent may be incorporated into a toothpaste, as described in Example 3 of the British patent specification, which toothpaste contains 50% dicalcium phosphate, dental grade, 30% U.S.P. glycerin, 1% gum tragacanth, 1% sodium lauryl sulphate, 0.05% methyl parahydroxybenzoate, 1% peppermint oil, 16.7% water and 0.2% ammoniated glycyrrhizin/5'-nucleotide sweetening agent.

Detailed Description Text (4):
In the composition of the present invention, the sweetening agent in the sialagogue differs in kind from ammoniated glycyrrhizin, since it is characterized by early appearance of sweetness and early extinction of sweetness. Further, such sweetening agent does not possess the licorice after-taste which 5'-nucleotide was disclosed to repress in British Patent Specification 1,432,452. .Iaddend.

Detailed Description Text (13):
When the oral composition is a dental cream, chewable tablet or tooth powder, there is typically present therein a dentally acceptable substantially water-insoluble polishing agent of the type commonly employed in dental creams, chewable tablets and powders. There is a relatively large number of such materials known in the art. Representative materials include, for example, dicalcium phosphate, tricalcium phosphate, insoluble sodium metaphosphate aluminum hydroxide, magnesium carbonate, calcium carbonate, calcium pyrophosphate, calcium sulfate, polymethyl methacrylate, bentonite, silica gel, precipitated silica, sodium aluminosilicate, etc., including suitable mixtures thereof. It is preferred to use the water-insoluble phosphate salts as the polishing agents and, more particularly, insoluble sodium metaphosphate and/or a calcium phosphate such as dicalcium phosphate dihydrate. Silica gel, precipitated silica and sodium aluminosilicate may be particularly desirable when a visually clear (transparent or translucent) dental cream (or gel) is to be provided.

Detailed Description Text (21):
Other suitable surface-active materials include nonionic agents such as condensates

of sorbitan monostearate with approximately 20 moles of ethylene oxide, condensates of ethylene oxide with propylene oxide condensates of propylene glycol ("Pluronics") and cationic surface-active germicides and antibacterial compounds such as di-isobutylphenoxyethoxyethyl dimethyl benzyl ammonium chloride, benzyl dimethyl stearyl ammonium chloride, tertiary amines having one fatty alkyl group (of from 12 to 18 carbon atoms) and two (poly) oxyethylene groups attached to the nitrogen (typically containing a total of from about 2 to 50 ethenoxy groups per molecule) and salts thereof with acids, and compounds of the structure ##STR2## where R is a fatty alkyl group containing from about 12 to 18 carbon atoms, and x, y and z total three of higher, as well as salts thereof with mineral or organic acids.

CLAIMS:

9. The flavored oral composition claimed in claim 1 wherein said dental vehicle comprises a liquid selected from the group consisting of water, humectant and mixture thereof and a gelling agent, and said oral composition contains about 20-75% by weight of a dentally acceptable substantially water-insoluble polishing agent, said oral composition being a dental cream.

12. The flavored oral composition claimed in claim 1 wherein said flavoring oil is peppermint. .Iadd.13. A flavored oral hygiene composition comprising a dental mouthwash, dental cream or dental gel vehicle consisting essentially of a humectant, a sialagogue, in amount up to about 5% by weight of said dentifrice, consisting essentially of a flavoring oil in amount to provide flavor characteristic to said composition up to about 5% by weight of said composition and a sweetening agent free from ammoniated glycyrrihizin selected from the group consisting of sucrose, lactose, maltose, glycerine, sorbitol, perillartine, xylitol, sodium cyclamate and sodium saccharine and about 0.002-0.007% by weight of a

5'-ribonucleotide. .Iaddend. .Iadd.14. The flavored oral composition claimed in claim 13 wherein said sweetening agent is sodium saccharine. .Iaddend. .Iadd.15. The flavored oral composition claimed in claim 13 wherein said 5'-ribonucleotide comprises an oral composition-compatible salt of 5'-inosinate. .Iaddend. .Iadd.16. The flavored oral composition claimed in claim 13 wherein said 5'-ribonucleotide comprises an oral composition-compatible salt of 5'-guanylate. .Iaddend. .Iadd.17. The flavored oral composition claimed in claim 13 wherein said 5'-ribonucleotide is a mixture of oral composition-compatible salts of 5'-inosinate and 5'-guanylate. .Iaddend. .Iadd.18. The flavored oral composition claimed in claim 17 wherein said mixture is about a 1:1 by weight mixture. .Iaddend. .Iadd.19. The flavored oral composition claimed in claim 13 wherein said flavoring oil is present in amount of about 0.1-1.5% by weight and said 5'-ribonucleotide is present in amount of about 0.003-0.005% by weight. .Iaddend. .Iadd.20. The flavored oral composition claimed in claim 13 wherein about 0.5-5% by weight of organic surface-active agent is present in said oral composition. .Iaddend. .Iadd.21. The flavored oral composition claimed in claim 20 wherein said organic surface agent is present in amounts of about 0.5-2% by weight and is sodium lauryl sulfate. .Iaddend. .Iadd.22. The flavored oral composition claimed in claim 13 wherein said dental vehicle comprises a liquid selected from the group consisting of water, humectant and mixture thereof and a gelling agent, and said oral compositions contains about 20-75% by weight of a dentally acceptable substantially water-insoluble polishing agent, said oral composition being a dental cream. .Iaddend.

.Iadd.23. The flavored oral composition claimed in claim 13 wherein said dental vehicle is present in amount of about 20-99% by weight of the dentifrice in an aqueous vehicle including about 5-30% by weight, based on the oral composition, of a non-toxic alcohol, said oral composition being a mouthwash. .Iaddend. .Iadd.24. The flavored oral composition claimed in claim 22 wherein about 0.5-2% by weight of sodium lauryl sulfate is present in said dental cream. .Iaddend. .Iadd.25. The flavored oral composition claimed in claim 13 wherein said flavoring oil is peppermint. .Iaddend.

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3340069	September 1967	Matsuda et al.	426/650
☐	3410695	November 1968	Shiga et al.	426/534
☐	3421905	January 1969	Yueh	426/534
☐	3532515	October 1970	Broderick et al.	426/533
☐	3591391	July 1971	Kinoshita et al.	426/650
☐	3608069	September 1971	Fuller	424/52
☐	3778513	December 1973	Shiga et al.	426/650
☐	3851073	November 1974	Cook	426/217
☐	4022879	May 1977	Dietrich	424/49
☐	4066793	January 1978	Eguchi	426/650
☐	4216200	August 1980	Horn	424/52
☐	4242323	December 1980	Vlock	424/58
☐	4258072	March 1981	Eguchi et al.	426/650
☐	4267195	May 1981	Boudreau et al.	426/534
☐	4374822	February 1983	Fine et al.	424/49

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
2851055	May 1979	DE	426/534
2851082	May 1979	DE	426/534
45-12267	May 1970	JP	426/534
47-22271	June 1972	JP	424/15
55-131361	October 1980	JP	424/15
4921	1877	GB	424/15
17875	1909	GB	
321965	November 1929	GB	
1422642	January 1976	GB	
1432452	April 1976	GB	

OTHER PUBLICATIONS

New Gaines Dog Biscuits-Best News for Dogs Since Cats-General Foods Adv., Sunda Star Magazine, Washington, D.C., Dec. 4, 1955.
DuBois et al., "Chemical Senses", vol. 7, No. 3/4, 1983, pp. 237-247.
Cook, "The Flavour Industry", Dec. 1970, pp. 831-832.
O'Brien et al., "Chemtech", May, 1981, pp. 274-278.
Translation of Ger. Off. 2851055, 5/31/79, Cook (Toothpaste with Ex. II Sweeten 5'-Nucleotide, Sodium Saccharin, Amm. Glycyrrhizin and Lactose).
Translation of Ger. Off. 2851082, 5/31/79, Cook (5' Nucleotide Sweetener Lactos Sorbitol, Amm. Glycyrrhizin.

ART-UNIT: 123

PRIMARY-EXAMINER: Rose; Shep K.

ATTY-AGENT-FIRM: Stone; Robert L. Grill; Murray M. Sylvester; Herbert S.

ABSTRACT:

Oral composition having a mellow flavor characteristic due to the presence of a .Iadd.sialagogue of a .Iaddend.flavoring oil and a 5'-ribonucleotide as a flavor modifying agent.Iadd., further containing a sweetening agent characterized by ea

WEST

☐ Generate Collection | Print

L6: Entry 48 of 51 File: USPT Jul 23, 1985

US-PAT-NO: RE31954
DOCUMENT-IDENTIFIER: US RE31954 E

TITLE: Oral composition

DATE-ISSUED: July 23, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fine; Ralph	East Brunswick	NJ		
Weiss; Sidney	Levittown	PA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Colgate-Palmolive Company	New York	NY			02

APPL-NO: 06/ 593070 [PALM]
DATE FILED: March 26, 1984

REISSUE-DATA:

US-PAT-NO	DATE-ISSUED	APPL-NO	DATE-FILED
04374822	February 22, 1983	327668	December 7, 1981

PARENT-CASE:
This application is a continuation-in-part of application Ser. No. 312,211, filed Oct. 19, 1981.

INT-CL: [] A61K 7/16, A61K 7/26

US-CL-ISSUED: 424/49; 424/58
US-CL-CURRENT: 424/49; 424/58

FIELD-OF-SEARCH: 424/48-58

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

appearance of sweetness and early extinction of sweetness. Sucrose, lactose, maltose, glycerine, sorbitol, perillartine, xylitol, sodium cyclamate and sodium saccharine are examples of such sweetening agents.Iaddend.. Early high or flash foaming is also promoted. Typical agents are disodium 5'-guanylate and disodium 5'-inosinate.

25 Claims, 0 Drawing figures

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=NO; OP=ADJ		
L20	l19 and l17	15	L20
L19	l18 and l15	97	L19
L18	l14 and zinc chloride	211	L18
L17	l16 and zinc.clm. and (cetylpyridinium.clm. or cetyl pyridinium.clm.)	28	L17
L16	l15 and (zinc.clm. or cetylpyridinium.clm. or cetyl pyridinium.clm. or plaque.clm.)	210	L16
L15	l14 and (plaque or mouthwash or mouthrinse or dentifrice or toothpaste)	437	L15
L14	zinc and (cetylpyridinium or cetyl pyridinium)	1558	L14
L13	l11 and (plaque or mouthwash or mouthrinse or toothpaste or dentifrice)	5	L13
L12	l11 and l1	2	L12
L11	inulin and (cetylpyridinium or cetyl pyridinium)	55	L11
L10	l8 and (cetylpyridinium or cetyl pyridinium or cationic surfactant? or cationic surface-active or cationic surface active)	6	L10
L9	l8 and l6	0	L9
L8	l7 and l1	83	L8
L7	(inulin or oligosaccharide?)	10934	L7
L6	l5 and (cetylpyridinium chloride or cetyl pyridinium chloride or cationic surfactant? or cationic surface-active or cationic surface active)	51	L6
L5	l4 and l1	585	L5
L4	(oil-soluble or oil soluble or water-insoluble or water insoluble)	90683	L4
L3	s l1 and (cetylpyridinium chloride or cetyl pyridinium chloride or cationic surfactant or cationic surface active)	0	L3
L2	s l1 and (oil-soluble or oil soluble or water-insoluble or water insoluble)	0	L2
L1	(glycyrrhiza or glycyrrhiza glabra or licorice or glabrin? or licocalcone? or glycyrrhizic acid or glycyrrhetinic acidor glabrene? or licochalcone a or licochalcone b or licocoumarone?)	4493	L1

END OF SEARCH HISTORY

US 100535010QP1

Creation date: 02-06-2004
Indexing Officer: NPHAM1 - NGOCHONG PHAM
Team: OIPEBackFileIndexing
Dossier: 10053501

Legal Date: 09-24-2002

No.	Doccode	Number of pages
1	SRNT	7

Total number of pages: 7

Remarks:

Order of re-scan issued on .....